



SM No. CMP3000000281

PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF (EXEMPT)

17

Construction necessary to modify existing curb and sidewalk or construct new curb and sidewalk to comply with ADA requirements throughout District 3, known as State Project No. MP-3000-00(028) / 303158301, in District 3, State of Mississippi.

Project Completion: June 27, 2008

NOTICE

**BIDDERS MUST PURCHASE A BOUND PROPOSAL
FROM MDOT CONTRACT ADMINISTRATION DIVISION
TO BID ON THIS PROJECT.**

Electronic addendum updates will be posted on www.goMDOT.com

SECTION 900 OF THE CURRENT (2004) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION MISSISSIPPI DEPARTMENT OF TRANSPORTATION JACKSON, MISSISSIPPI

**BIDDER CHECK LIST
(FOR INFORMATION ONLY)**

- _____ All unit prices and item totals have been entered in accordance with Subsection 102.06 of the Mississippi Standard Specifications for Road and Bridge Construction.
- _____ If the bid sheets were prepared using MDOT's Electronic Bid System, proposal sheets have been stapled and inserted into the proposal package.
- _____ First sheet of SECTION 905--PROPOSAL has been completed.
- _____ Second sheet of SECTION 905--PROPOSAL has been completed and signed.
- _____ Addenda, if any, have been acknowledged. Second sheet of Section 905 listing the addendum number has been substituted for the original second sheet of Section 905. Substituted second sheet of Section 905 has been properly completed, signed, and added to the proposal.
- _____ DBE/WBE percentage, when required by contract, has been entered on last sheet of the bid sheets of SECTION 905 - PROPOSAL.
- _____ Form OCR-485, when required by contract, has been completed and signed.
- _____ The last sheet of the bid sheets of SECTION 905--PROPOSAL has been signed.
- _____ Combination Bid Proposal of SECTION 905--PROPOSAL has been completed for each project which is to be considered in combination (See Subsection 102.11).
- _____ Equal Opportunity Clause Certification, when included in contract, has been completed and signed.
- _____ Subcontract Certificate, when included in contract, has been completed and signed.
- _____ The Certification regarding Non-Collusion, Debarment and Suspension, etc. has been executed in duplicate.
- _____ A certified check, cashier's check or bid bond payable to the State of Mississippi in the principal amount of 5% of the bid has been included with project number identified on same. Bid bond has been signed by the bidder and has also been signed or countersigned by a Mississippi Resident Agent for the Surety with Power of Attorney attached or on file with the Department's Contract Administration Engineer.
- _____ Non-resident Bidders: ON STATE FUNDED PROJECTS ONLY, a copy of the current laws regarding any preference for local Contractors from State wherein domiciled has been included. See Subsection 103.01, Mississippi Standard Specifications for Road and Bridge Construction, and Section 31-7-47, MCA, 1972 regarding this matter.

Return the proposal and contract documents in its entirety in a sealed envelope. DO NOT remove any part of the contract documents; exception - an addendum requires substitution of second sheet of Section 905. A stripped proposal is considered as an irregular bid and will be rejected.

Failure to complete any or all of the applicable requirements will be cause for the proposal to be considered irregular.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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SECTION 905 - PROPOSAL, PROPOSAL SHEET NOS. 2-1 THRU 2-2
COMBINATION BID PROPOSAL,
STATE BOARD OF CONTRACTORS REQUIREMENTS,
NON-COLLUSION CERTIFICATE,
SECTION 902 - CONTRACT FORM, AND SECTION 903 - CONTRACT BOND FORM,
HAUL PERMIT FOR BRIDGES WITH POSTED WEIGHT LIMITS.
(REVISIONS TO THE ABOVE WILL BE INDICATED ON THE SECOND SHEET
OF SECTION 905 AS ADDENDA)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 901 - ADVERTISEMENT

Sealed bids will be received by the Mississippi Transportation Commission in the Office of the Contract Administration Engineer, Room 1013, Mississippi Department of Transportation Administration Building, 401 North West Street, Jackson, Mississippi, until 9:30 o'clock A.M., Tuesday, May 22, 2007; thereafter, bids will be received in the First Floor Auditorium of the Mississippi Department of Transportation Administration Building, Jackson, Mississippi, until 10:00 o'clock A.M., Tuesday, May 22, 2007, and shortly thereafter publicly opened for:

Construction necessary to modify existing curb and sidewalk or construct new curb and sidewalk to comply with ADA requirements through District 3, known as State Project No. MP-3000-00(028) / 303158301, in District 3, State of Mississippi.

The attention of bidders is directed to the predetermined minimum wage rate set by the U. S. Department of Labor under the Fair Labor Standards Act.

The Mississippi Department of Transportation hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, age, disability, religion or national origin in consideration for an award.

The specifications are on file in the offices of the Mississippi Department of Transportation.

Bid proposals must be acquired from the MDOT Contract Administration Division. These proposals are available at a cost of Ten Dollars (\$10.00) per proposal. Specimen proposals are also available at the MDOT Contract Administration Division at a cost of Ten Dollars (\$10.00) per proposal, or can be viewed or downloaded at no cost at www.gomdot.com.

Bid bond, signed or countersigned by a Mississippi Resident Agent, with Power of Attorney attached or on file with the Contract Administration Engineer of the Department, a Cashier's check or Certified Check for five (5%) percent of bid, payable to STATE OF MISSISSIPPI, must accompany each proposal.

The attention of bidders is directed to the provisions of Subsection 102.07 pertaining to irregular proposals and rejection of bids.

LARRY L. "BUTCH" BROWN
EXECUTIVE DIRECTOR

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1

CODE: (IS)

DATE: 05/03/2004

SUBJECT: Governing Specifications

The current (2004) Edition of the Standard Specifications for Road and Bridge Construction adopted by the Mississippi Transportation Commission is made a part hereof fully and completely as if it were attached hereto, except where superseded by special provisions, or amended by revisions of the Specifications contained herein. Copies of the specification book may be purchased from the MDOT Construction Division.

A reference in any contract document to controlling requirements in another portion of the contract documents shall be understood to apply equally to any revision or amendment thereof included in the contract.

In the event the plans or proposal contain references to the 1990 Edition of the Standard Specifications for Road and Bridge Construction, it is to be understood that such references shall mean the comparable provisions of the 2004 Edition of the Standard Specifications.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3

CODE: (SP)

DATE: 05/03/2004

SUBJECT: Final Clean-Up

Immediately prior to final inspection for release of maintenance, the Contractor shall pick up, load, transport and properly dispose of all litter from the entire highway right-of-way that is within the termini of the project.

Litter shall include, but not be limited to, solid wastes such as glass, paper products, tires, wood products, metal, synthetic materials and other miscellaneous debris.

Litter removal is considered incidental to other items of work and will not be measured for separate payment.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 12

CODE: (IS)

DATE: 05/03/2004

SUBJECT: Federal Bridge Formula

Bidders are hereby advised that Federal Highway Administration Publication No. FHWA-MC-94-007, **BRIDGE FORMULA WEIGHTS**, dated January 1994, is made a part of this contract when applicable.

Prior to the preconstruction conference, the Contractor shall advise the Engineer, in writing, what materials, if any, will be delivered to the jobsite via Interstate route(s).

Copies of the **BRIDGE FORMULA WEIGHTS** publication may be obtained by contacting:

Federal Highway Administration
400 7th Street, SW
Washington, DC 20590
(202) 366-2212

or

<http://ops.fhwa.dot.gov/freight/regulate/sw/>

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 640

CODE: (IS)

| DATE: 09/26/2005

SUBJECT: Fiber Reinforced Concrete

Bidders are hereby advised that synthetic structural fibers meeting the requirements of Subsection 907-711.04 may be used in lieu of wire mesh in some items of construction. Substitution of fibers for wire mesh will be allowed in the construction of paved ditches, paved flumes, paved inlet apron, driveways, guard rail anchors and pile encasements. Substitution in any other items of work must be approved by the State Construction Engineer prior to use.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| **SECTION 904 - NOTICE TO BIDDERS NO. 777**

CODE: (IS)

| **DATE: 04/13/2006**

SUBJECT: On-The-Job Training Program

| Payment for training hours will be handled as outlined in Special Provision 906-6. A pay item for trainees will not be included in individual construction projects. Payment for training individuals will be processed in accordance with the conditions in MDOT's ON-THE-JOB TRAINING PROGRAM (Special Provision 906-6).

| On Federal-Aid projects, failure on the part of the Contractor to carryout the terms of the Alternate Training Special Provision (Special Provision 906-6) will be considered grounds to preclude the Contractor from participating in the Alternate On-The-Job Training Program. In the event the Department is required to preclude the Contractor from participating in the program, the Contractor will be required to adhere to the requirements of the Training Special Provision (Special Provision 906-3), for which purpose the special provision is also made a part of this proposal.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 872

CODE: (SP)

DATE: 03/27/2006

SUBJECT: Non-QC/QA Concrete

Bidders are advised that the QC/QA requirements for concrete will not apply to this project. Concrete on this project shall meet the requirements of Special Provision No. 907-804-4.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 883

CODE: (IS)

DATE: 04/28/2006

SUBJECT: Payroll Requirements

Bidders are hereby advised that the Contractor and Subcontractor(s) are required to submit payroll information to the Project Engineers on a weekly basis.

On Federal-Aid Projects, CAD-880, CAD-881 and certified payroll submissions are required each week the Contractor or a Subcontractor performs work on the project. This is addressed in Section V, page 6 of Form FHWA-1273.

On State-Funded Projects, CAD-880 is required each week the Contractor or a Subcontractor performs work on the project.

When no work is performed on either Federal-Aid and State-Funded Projects, the Contractor should only submit CAD-880 showing no work activities.

The Contractor shall make all efforts necessary to submit this information to the Project Engineer in a timely manner. The Engineer will have the authority to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to submit the required information. Submission of forms and payrolls shall be current through the first full week of the month for the estimate period in order for the Project Engineer to process an estimate.

Bidders are advised to review the requirements regarding payroll submissions in Section 110 of the Standard Specifications.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 1339

CODE: (SP)

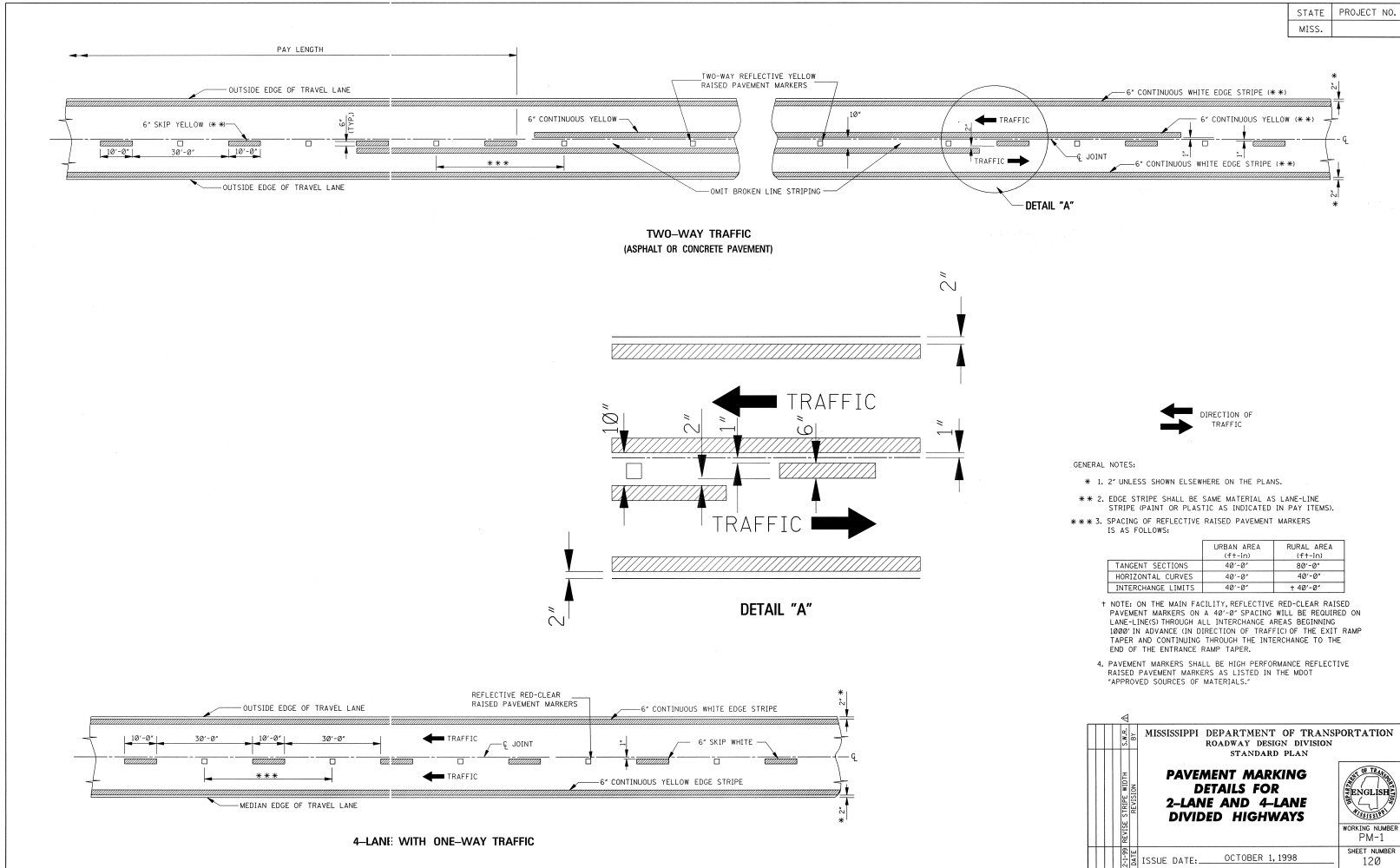
DATE: 02/16/2007

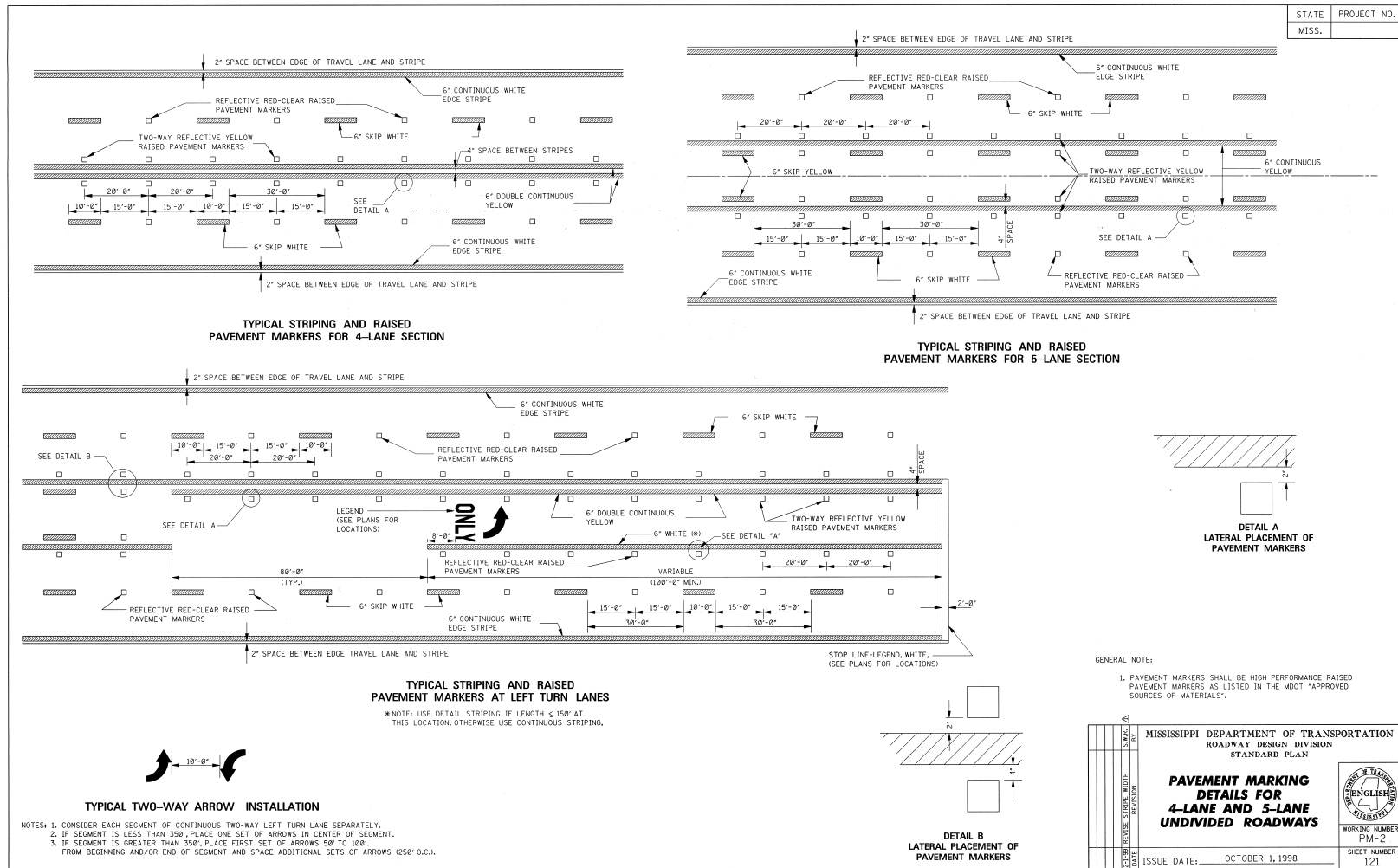
SUBJECT: Standard Drawings

Standard Drawings attached hereto shall govern appropriate items of required work.

Larger copies of Standard Drawings may be purchased from:

MDOT Plans Print Shop
MDOT Administration Building
401 North West Street, Room 1100
P.O. Box 1850
Jackson, MS 39215-1850
Telephone: (601) 359-7460
or FAX: (601) 359-7461
or e-mail: plans@mdot.state.ms.us








- GENERAL NOTES:
- *1. SEE SHEET PM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND FOR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELER WAY.
 - * * 2. ON THE MAIN FACILITY, PLACE REFLECTIVE RED-CLAY RAISED PAVEMENT MARKERS AT 4' 0" SPACING ON ALL LANE-LINES) THROUGHOUT THE INTERCHANGE AREA BEGINNING 100' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
 - 3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MOOT "APPROVED SOURCES OF MATERIALS."

STATE	PROJECT	DATE	ISSUE DATE: _____
NO.	NAME	DATE	_____
BY	REVISION		

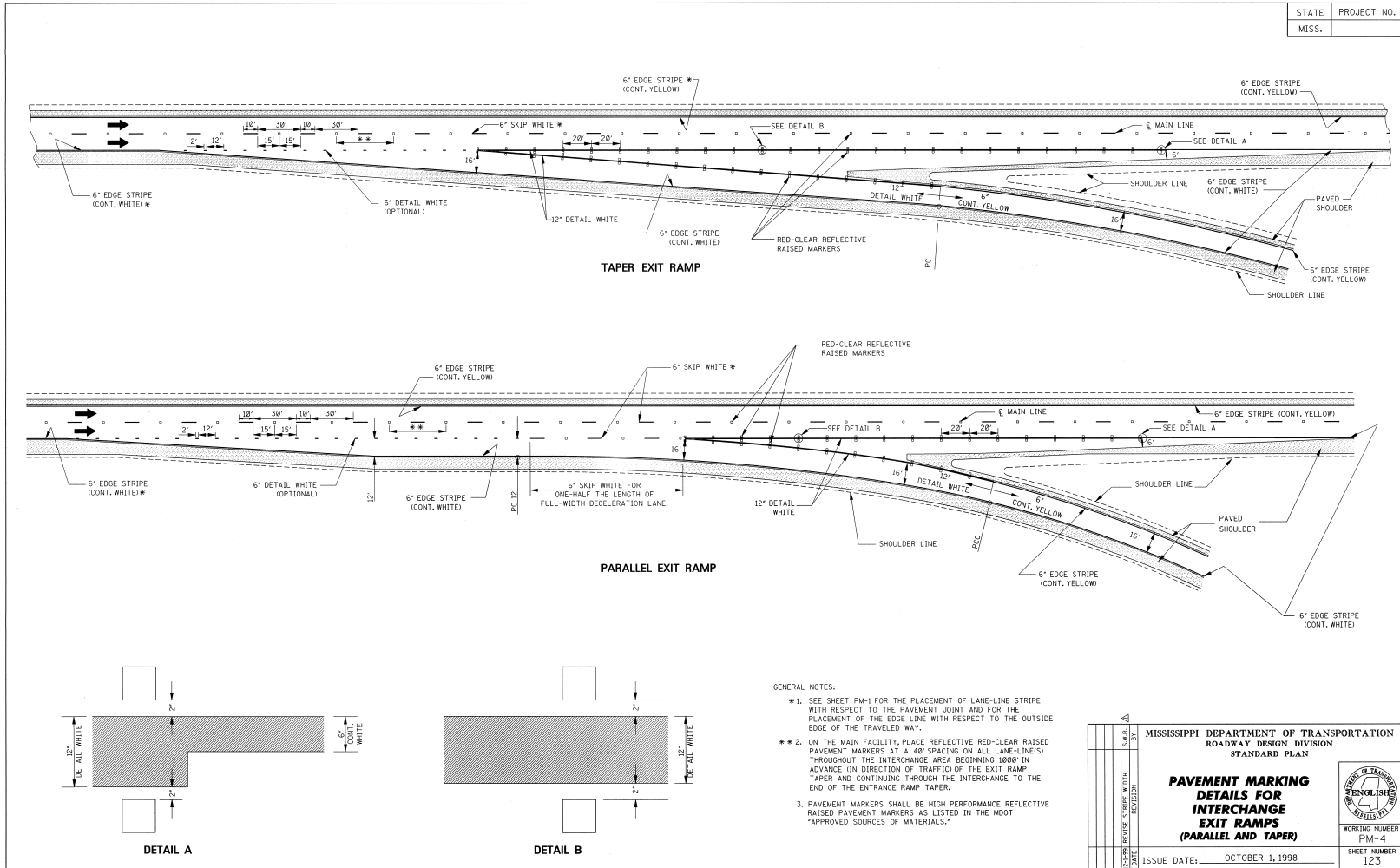
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

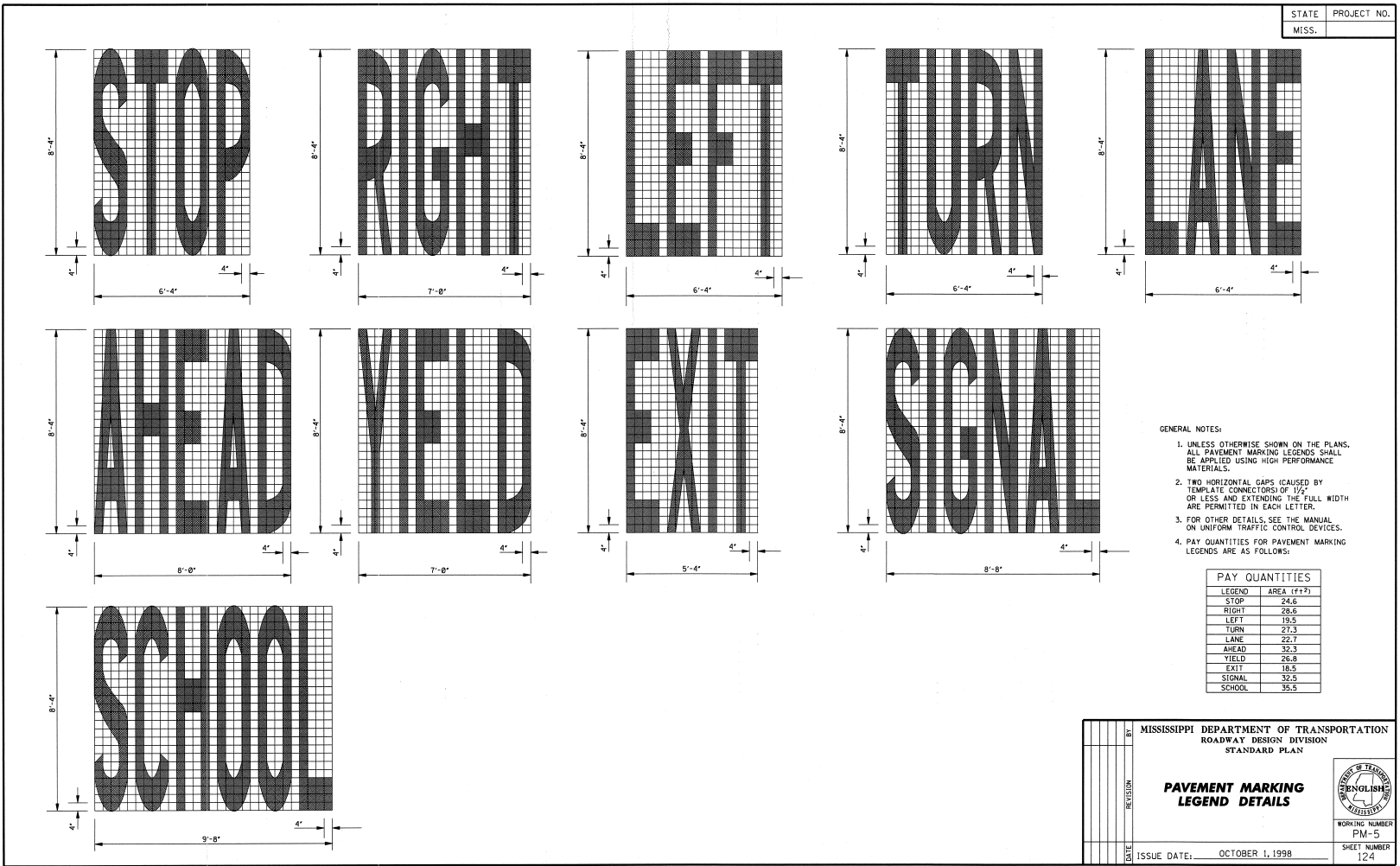
**PAVEMENT MARKING
DETAILS FOR
INTERCHANGE
ENTRANCE RAMPS
(PARALLEL AND TAPER)**

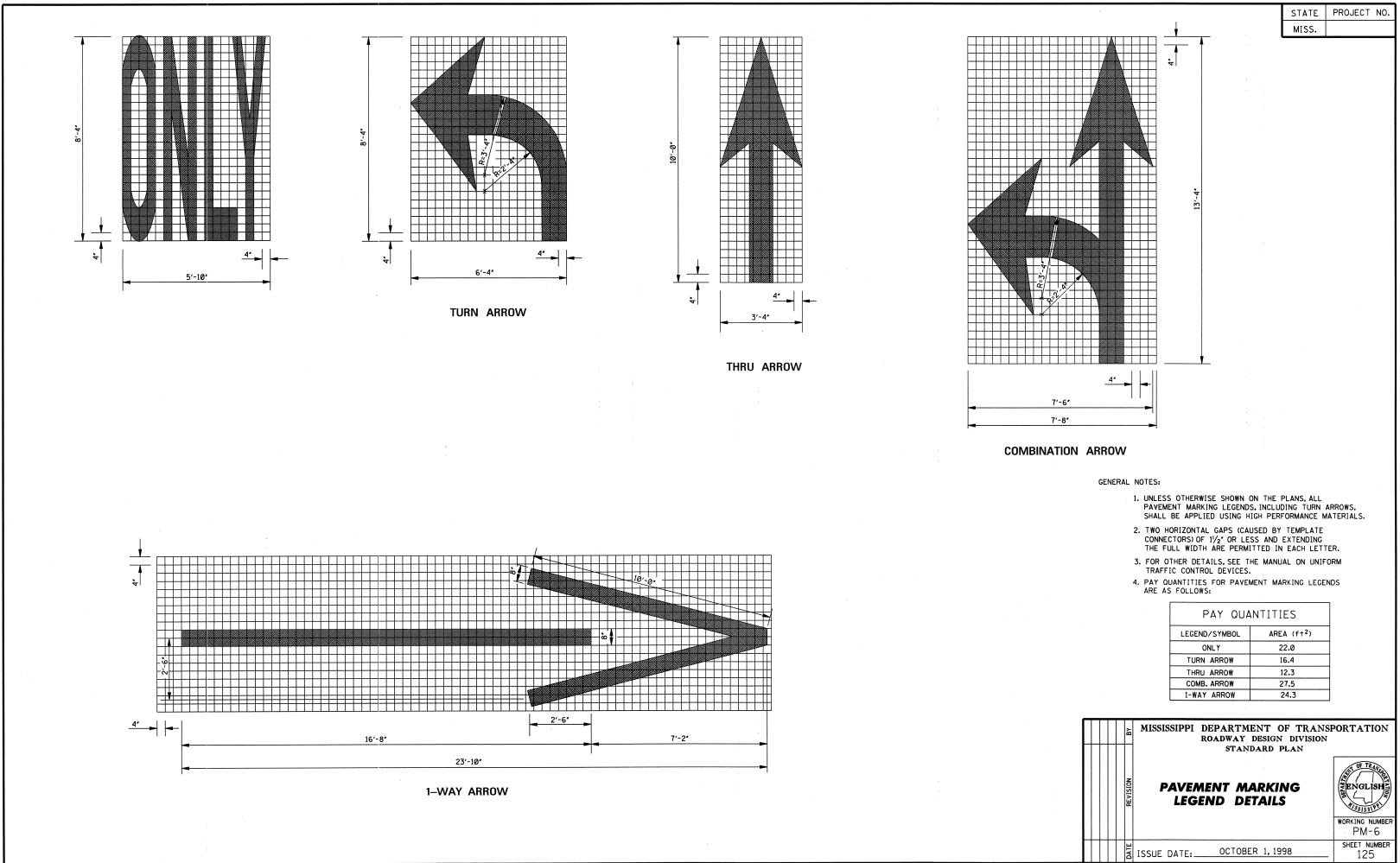


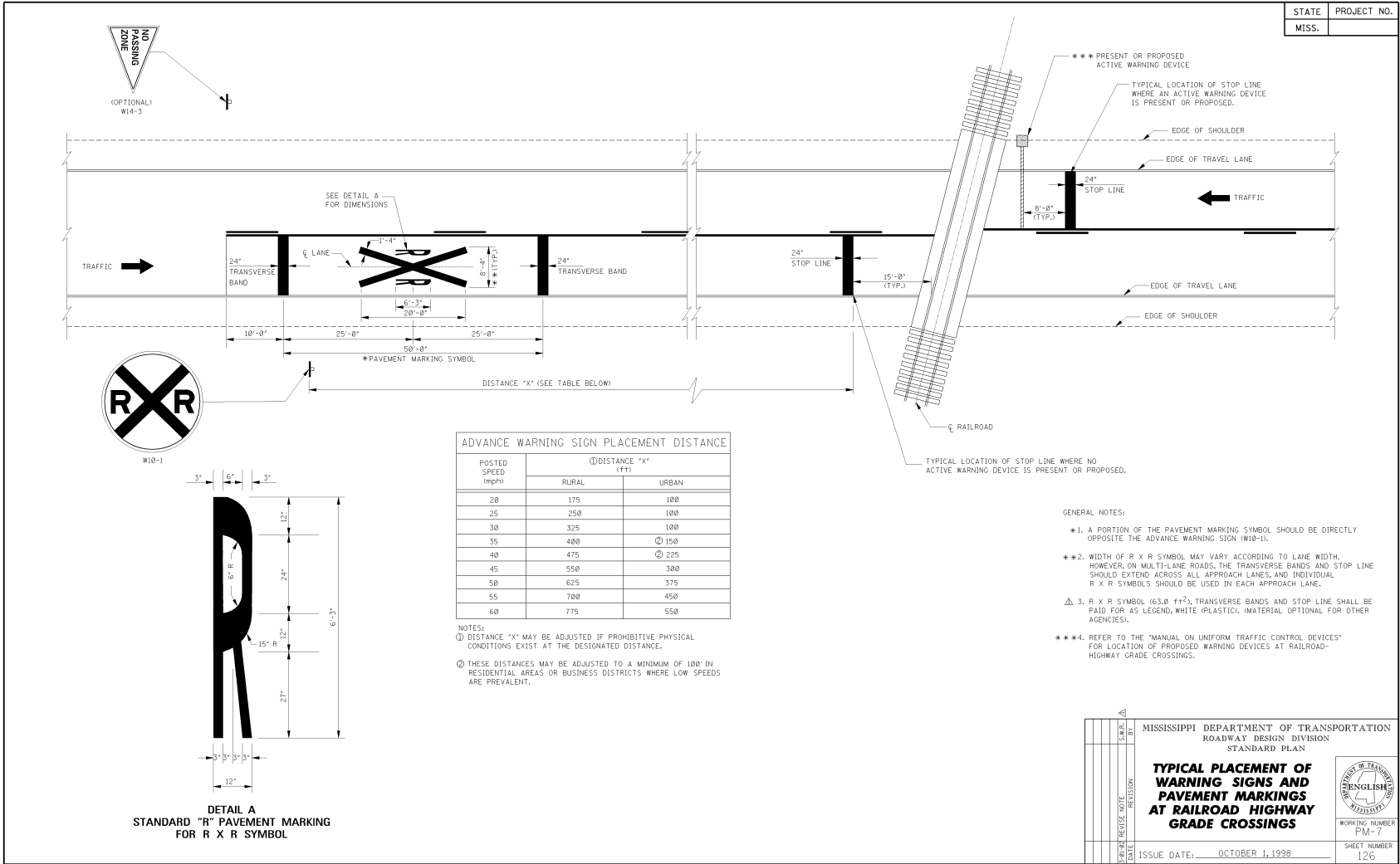
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PM-3

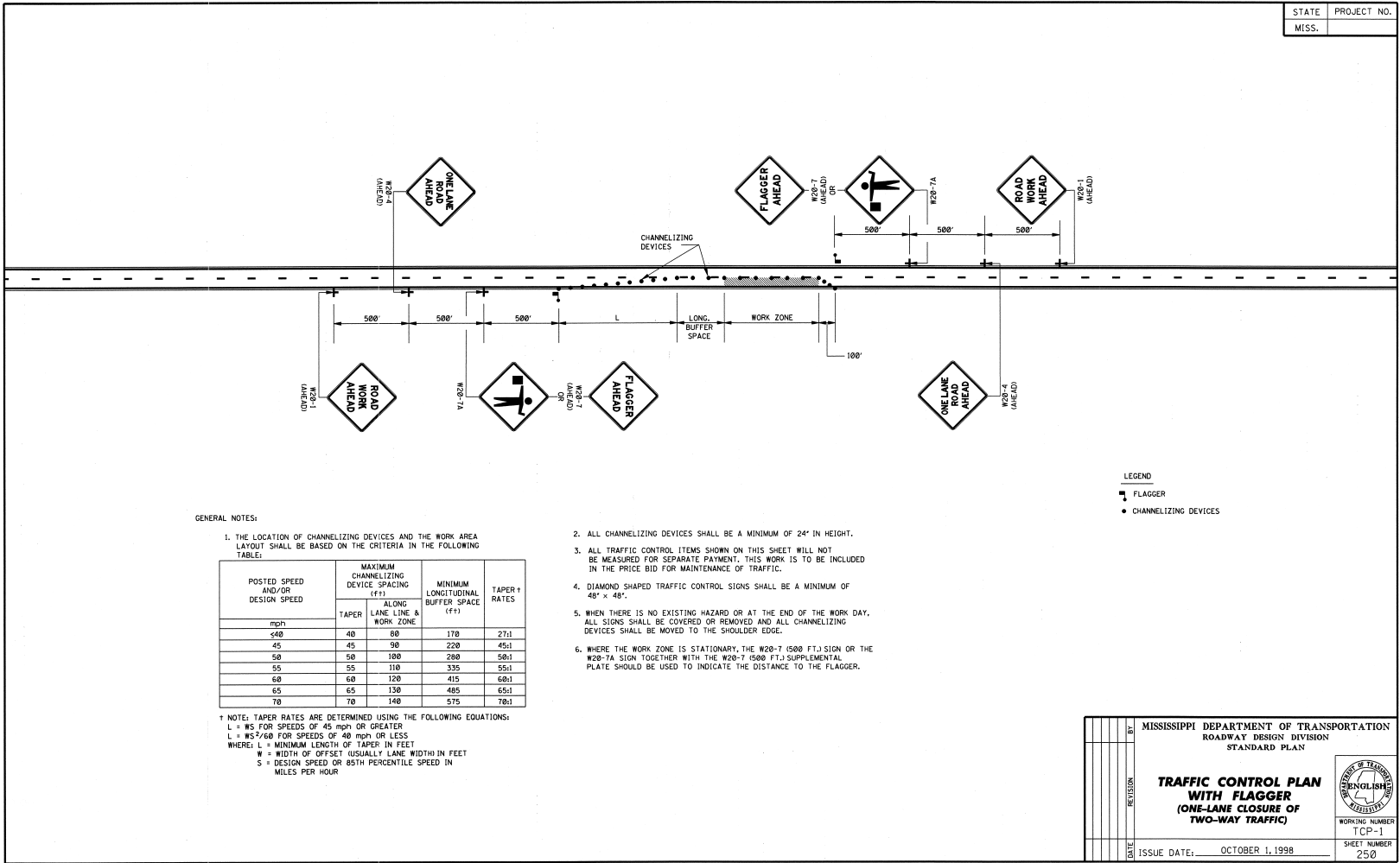
SHEET NUMBER
122

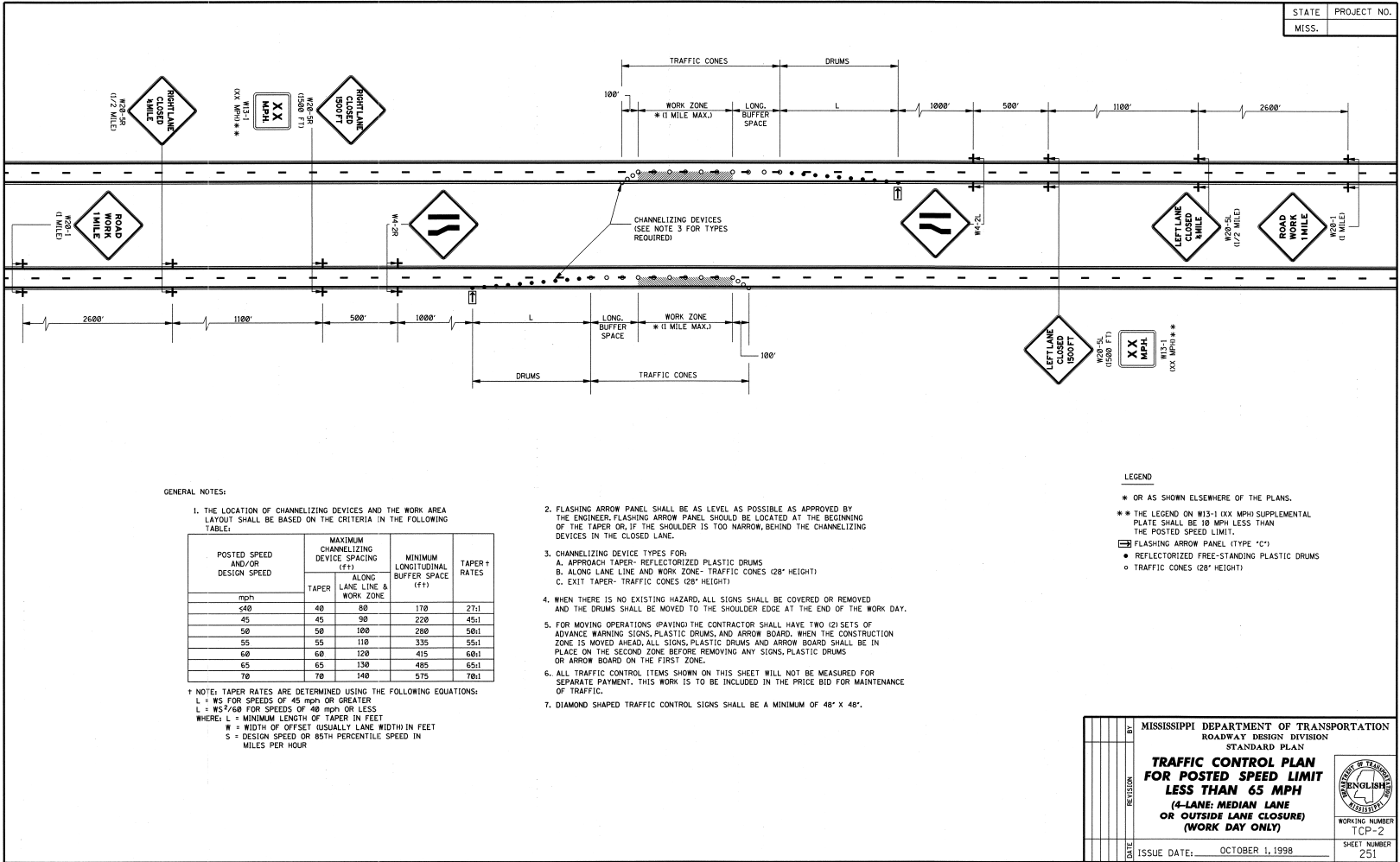


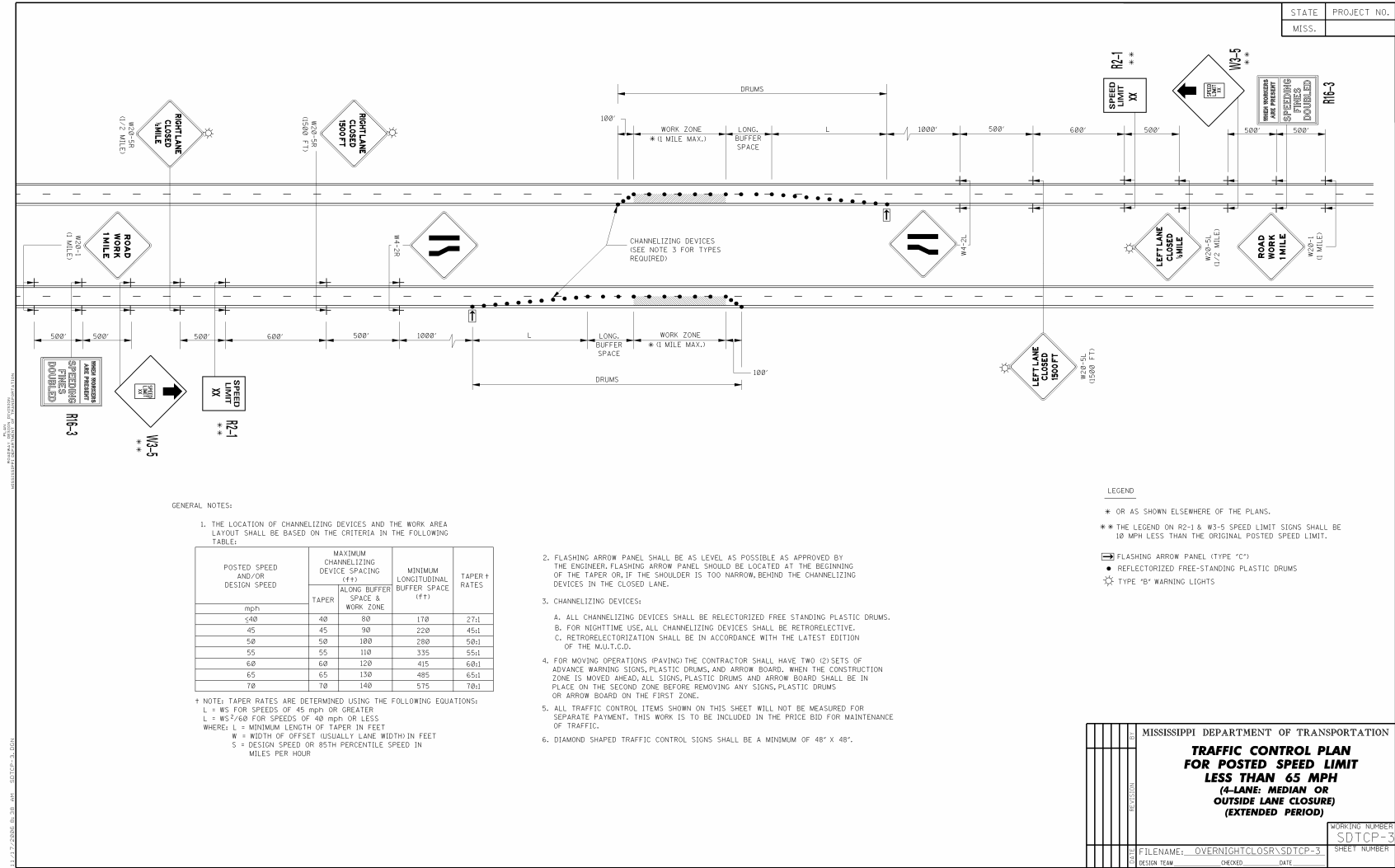




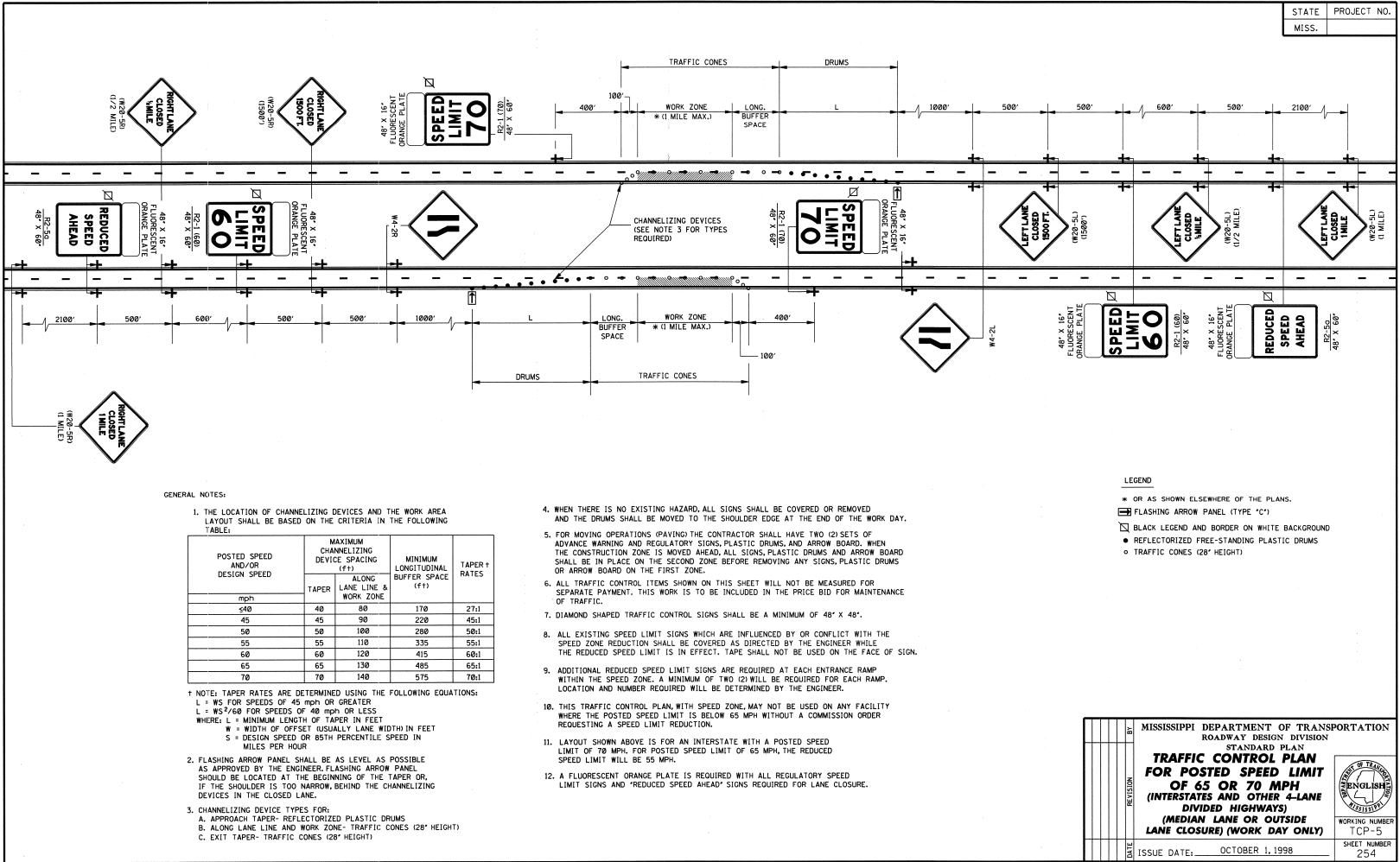












GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (FT)		MINIMUM LONGITUDINAL BUFFER SPACE (FT)	TAPER RATES
	TAPER	ALONG LANE LINE & WORK ZONE		
40	40	80	170	27:1
45	45	90	220	45:1
50	50	100	280	50:1
55	55	110	335	55:1
60	60	120	415	60:1
65	65	130	485	65:1
70	70	140	575	70:1

† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
L = WS FOR SPEEDS OF 45 MPH OR GREATER
L = WS²/60 FOR SPEEDS OF 40 MPH OR LESS
WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET USUALLY LANE WIDTH IN FEET
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR

2. FLASHING ARROW PANEL SHALL BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.

3. CHANNELIZING DEVICE TYPES FOR:
A. APPROACH TAPER- REFLECTORIZED PLASTIC DRUMS
B. ALONG LANE LINE AND WORK ZONE- TRAFFIC CONES (28" HEIGHT)
C. EXIT TAPER- TRAFFIC CONES (28" HEIGHT)

4. WHEN THERE IS NO EXISTING HAZARD, ALL SIGNS SHALL BE COVERED OR REMOVED AND THE DRUMS SHALL BE MOVED TO THE SHOULDER EDGE AT THE END OF THE WORK DAY.

5. FOR MOVING OPERATIONS (PAYING) THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING AND REGULATORY SIGNS, PLASTIC DRUMS, AND ARROW BOARD. WHEN THE CONSTRUCTION ZONE IS MOVED AHEAD, ALL SIGNS, PLASTIC DRUMS AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS OR ARROW BOARD ON THE FIRST ZONE.

6. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

7. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 48" X 48".

8. ALL EXISTING SPEED LIMIT SIGNS WHICH ARE INFLUENCED BY OR CONFLICT WITH THE SPEED ZONE REDUCTION SHALL BE COVERED AS DIRECTED BY THE ENGINEER WHILE THE REDUCED SPEED LIMIT IS IN EFFECT. TAPE SHALL NOT BE USED ON THE FACE OF SIGN.

9. ADDITIONAL REDUCED SPEED LIMIT SIGNS ARE REQUIRED AT EACH ENTRANCE RAMP WITHIN THE SPEED ZONE. A MINIMUM OF TWO (2) WILL BE REQUIRED FOR EACH RAMP. LOCATION AND NUMBER REQUIRED WILL BE DETERMINED BY THE ENGINEER.

10. THIS TRAFFIC CONTROL PLAN, WITH SPEED ZONE, MAY NOT BE USED ON ANY FACILITY WHERE THE POSTED SPEED LIMIT IS BELOW 65 MPH WITHOUT A COMMISSION ORDER REQUESTING A SPEED LIMIT REDUCTION.

11. LAYOUT SHOWN ABOVE IS FOR AN INTERSTATE WITH A POSTED SPEED LIMIT OF 70 MPH. FOR POSTED SPEED LIMIT OF 65 MPH, THE REDUCED SPEED LIMIT WILL BE 55 MPH.

12. A FLUORESCENT ORANGE PLATE IS REQUIRED WITH ALL REGULATORY SPEED LIMIT SIGNS AND "REDUCED SPEED AHEAD" SIGNS REQUIRED FOR LANE CLOSURE.

LEGEND

- * OR AS SHOWN ELSEWHERE OF THE PLANS.
- FLASHING ARROW PANEL (TYPE "C")
- BLACK LEGEND AND BORDER ON WHITE BACKGROUND
- REFLECTORIZED FREE-STANDING PLASTIC DRUMS
- TRAFFIC CONES (28" HEIGHT)

DATE	BY	REVISION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

ROADWAY DESIGN DIVISION

STANDARD PLAN

TRAFFIC CONTROL PLAN

FOR POSTED SPEED LIMIT

OF 65 OR 70 MPH

(INTERSTATES AND OTHER 4-LANE

DIVIDED HIGHWAYS)

(MEDIAN LANE OR OUTSIDE

LANE CLOSURE) (WORK DAY ONLY)

ISSUE DATE: OCTOBER 1, 1998

WORKING NUMBER


TCP-5

SHEET NUMBER


254

STATE
MISS.

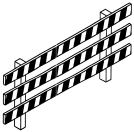
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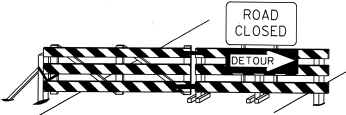
TYPE I




TYPE II



TYPE III



BARRICADE CLOSING A ROAD



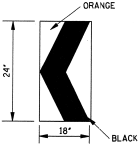
STANDARD BARRICADES

- A TYPE I BARRICADE CONSISTS OF ONE (1) HORIZONTAL RAIL SUPPORTED BY A DEMOUNTABLE FRAME OR A LIGHT "A" FRAME. A TYPE I BARRICADE NORMALLY WOULD BE USED ON CONVENTIONAL ROADS OR URBAN STREETS AND ARTERIALS.
- A TYPE II BARRICADE CONSISTS OF TWO (2) HORIZONTAL RAILS ON A LIGHT "A" FRAME. TYPE II BARRICADES ARE INTENDED FOR USE ON EXPRESSWAYS AND FREEWAYS AND OTHER HIGH-SPEED ROADWAYS.
- TYPE I AND TYPE II BARRICADES ARE INTENDED FOR USE WHERE THE HAZARD IS RELATIVELY SMALL AS, FOR EXAMPLE, ON CITY STREETS, OR FOR THE MORE OR LESS CONTINUOUS DELIMITING OF A RESTRICTED ROADWAY, OR FOR TEMPORARY DAYTIME USE.
- A TYPE III BARRICADE CONSISTS OF THREE (3) HORIZONTAL RAILS SUPPORTED BY FIXED POSTS, A RIGID SKID, A HEAVY DEMOUNTABLE FRAME OR A HEAVY, HINGED "A" FRAME.
- TYPE III BARRICADES ARE INTENDED FOR USE ON CONSTRUCTION AND MAINTENANCE PROJECTS AS WING BARRICADES AND AT ROAD CLOSURES, WHERE THEY MUST REMAIN IN PLACE FOR EXTENDED PERIODS.
- THE MARKING FOR BARRICADE RAILS SHALL BE ORANGE AND WHITE (SLOPING DOWNWARD AT AN ANGLE OF 45° IN THE DIRECTION TRAFFIC IS TO PASS).
- DO NOT PLACE SANDBAGS OR OTHER DEVICES TO PROVIDE MASS ON THE BOTTOM RAIL THAT WILL BLOCK VIEW OR RAIL FACE.
- FOR ADDITIONAL INFORMATION OR DETAILS, SEE MUTCD, LATEST EDITION.

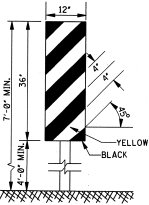
	I	II	III
WIDTH OF RAIL **	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.
LENGTH OF RAIL **	24" MIN.	24" MIN.	48" MIN.
WIDTH OF STRIPE *	6"	6"	6"
HEIGHT	36" MIN.	36" MIN.	60" MIN.
NUMBER OF REFLECTORIZED RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTIONS
TYPE OF FRAME	LIGHT	LIGHT "A" FRAME	POST OR SKID

* 1. FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.

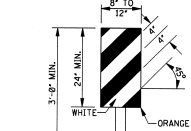
** 2. BARRICADES INTENDED FOR USE ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH SPEED ROADWAYS, SHALL HAVE A MINIMUM OF 270 IN² OF REFLECTIVE AREA FACING TRAFFIC.



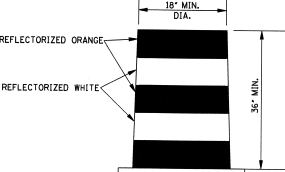
CHEVRON SIGN
DETAIL



TYPE 3 OBJECT MARKER
(OM-3R)



VERTICAL PANEL



PLASTIC DRUM STRIPING DETAIL

- A CHEVRON SIGN CONSISTS OF A BLACK CHEVRON TYPE MARKING ON AN ORANGE BACKGROUND AND SHALL POINT IN THE DIRECTION OF TRAFFIC FLOW.
- THE CHEVRON SIGN SHALL BE MOUNTED ON FIXED POST OR RIGID SKID.
- CHEVRON SIGNS MAY BE USED TO SUPPLEMENT OTHER STANDARD DEVICES WHERE ONE OR MORE LANES ARE CLOSED FOR CONSTRUCTION OR MAINTENANCE. THEY SHALL BE PLACED APPROXIMATELY 2'-8" BEHIND THE LANE TRANSITION STRIPE.

- TYPE 3 OBJECT MARKERS SHALL BE USED AT ALL EXPOSED BRIDGE ABUTMENTS AND AT OTHER LOCATIONS AS DEEMED NECESSARY BY THE ENGINEER.
- THE OM-3R IS SHOWN. THE OM-3L IS SIMILAR EXCEPT THE STRIPES SLOPE DOWNWARD FROM THE UPPER LEFT SIDE TO THE LOWER RIGHT SIDE AND SHALL BE PLACED ON THE LEFT SIDE OF THE OBJECT.
- THE INSIDE EDGE OF THE MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION.

- VERTICAL PANELS CONSIST OF AT LEAST ONE PANEL 8" TO 12" IN WIDTH AND A MINIMUM OF 24" IN HEIGHT.
- THE DIAGONAL STRIPES SHALL SLOPE DOWNWARD IN THE DIRECTION THAT TRAFFIC IS TO PASS THE PANEL. THE PANELS SHALL BE MOUNTED WITH THE TOP A MINIMUM OF 36" ABOVE THE ROADWAY ON A SINGLE LIGHTMASS POST.
- VERTICAL PANELS USED ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH-SPEED ROADWAYS SHALL HAVE A MINIMUM OF 270 IN² OF RETROREFLECTIVE AREA FACING TRAFFIC.
- FOR TWO-WAY TRAFFIC OPERATIONS, BACK-TO-BACK PANELS SHALL BE USED.

GENERAL NOTES:

- MARKINGS ON ALL DEVICES SHOWN ON THIS SHEET SHALL BE HIGH-INTENSITY REFLECTIVE SHEETING.
- THE TRAFFIC CONTROL PLAN WILL LIST THE VARIOUS TRAFFIC CONTROL DEVICES REQUIRED FOR EACH PROJECT.

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BY

DATE

REVISION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

ROADWAY DESIGN DIVISION

STANDARD PLAN

HIGHWAY SIGN AND BARRICADE DETAILS FOR CONSTRUCTION PROJECTS

ISSUE DATE: OCTOBER 1, 1998

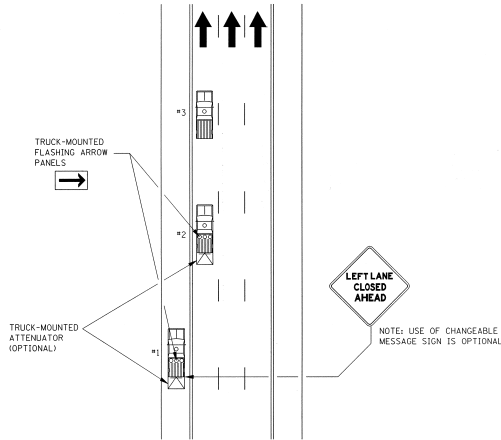
WORKING NUMBER TCP-10

SHEET NUMBER 239

- 14

Notice to Bidders No. 1339 – Cont'd.

MOBILE OPERATIONS ON MULTILANE ROAD ▲

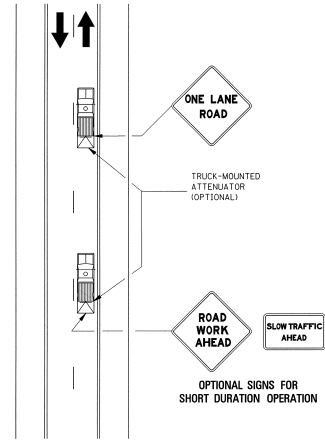


MOBILE OPERATIONS ON MULTILANE ROAD

NOTES:

1. VEHICLES USED FOR THESE OPERATIONS SHOULD BE MADE HIGHLY VISIBLE WITH APPROPRIATE EQUIPMENT, SUCH AS FLASHING LIGHTS, ROTATING BEACONS, FLAGS, SIGNS, OR ARROW PANELS.
2. PROTECTION VEHICLE #1 SHOULD BE EQUIPPED WITH AN ARROW PANEL. AN APPROPRIATE LANE CLOSURE SIGN SHOULD BE PLACED ON PROTECTION VEHICLE #1 SO AS NOT TO OBSCURE THE ARROW PANEL.
3. PROTECTION VEHICLE #2 SHOULD BE EQUIPPED WITH AN ARROW PANEL AND TRUCK-MOUNTED ATTENUATOR (TMA).
4. PROTECTION VEHICLE #1 SHOULD TRAVEL AT A VARYING DISTANCE FROM THE WORK OPERATION SO AS TO PROVIDE ADEQUATE SIGHT DISTANCE FOR TRAFFIC APPROACHING FROM THE REAR.
5. WHEN ADEQUATE SHOULDER WIDTH IS NOT AVAILABLE, PROTECTION VEHICLE #1 SHOULD BE ELIMINATED.
6. ON HIGH-SPEED ROADWAYS, A THIRD PROTECTION VEHICLE SHOULD BE USED (I.E., VEHICLE #1 ON THE SHOULDER IF PRACTICAL), VEHICLE #2 IN THE CLOSED LANE, AND VEHICLE #3 IN THE CLOSED LANE).
7. ARROW PANELS SHALL BE AS A MINIMUM TYPE B, 60" X 30" IN ACCORDANCE WITH THE CRITERIA PRESENTED IN THE MUTCD.
8. WORK SHOULD NORMALLY BE DONE DURING OFF-PEAK HOURS.
9. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

MOBILE OPERATIONS ON TWO-LANE ROAD



MOBILE OPERATIONS ON TWO-LANE ROAD

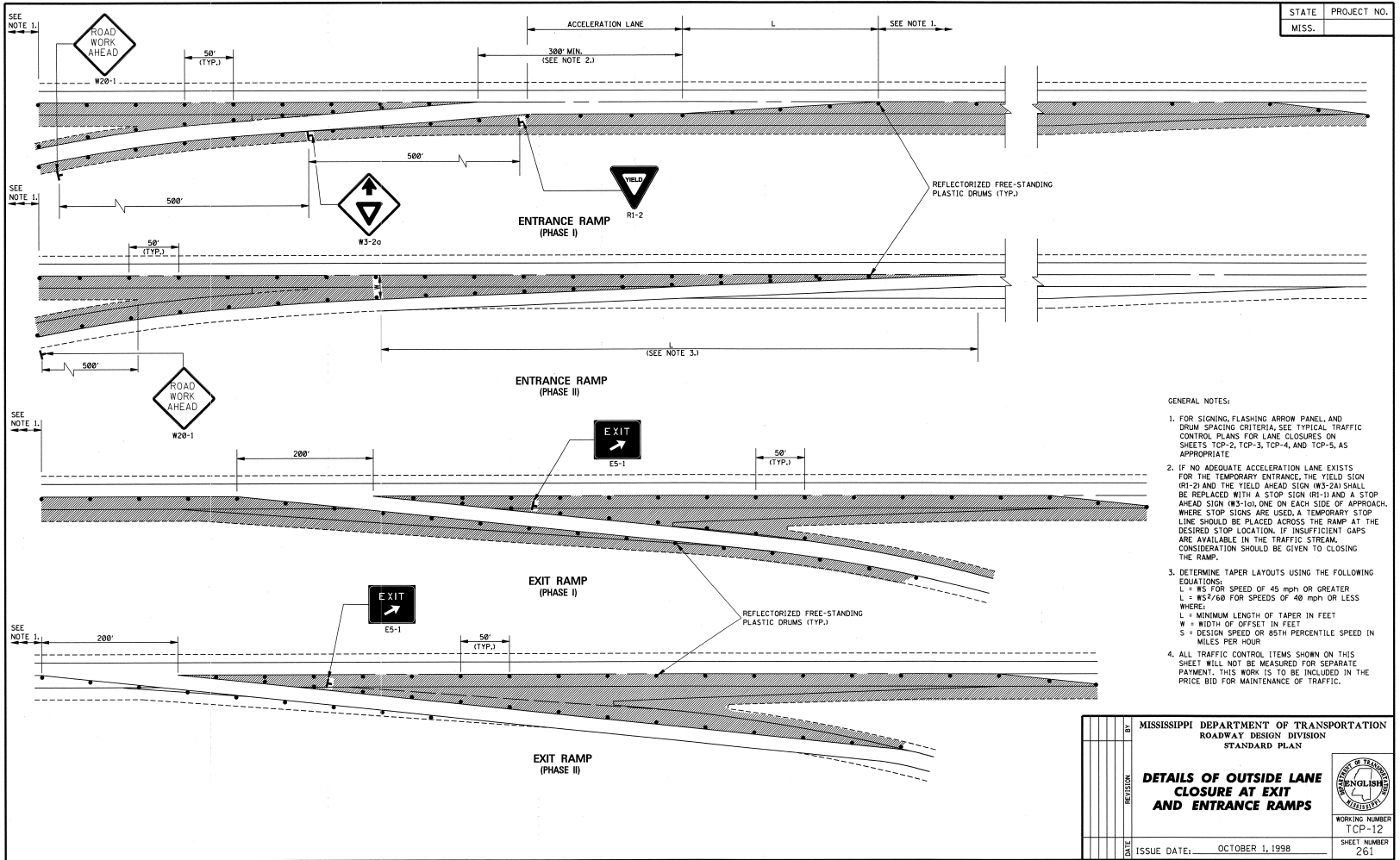
NOTES:

1. WHERE PRACTICAL AND WHEN NEEDED, THE WORK AND PROTECTION VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS. IF THIS CAN NOT BE DONE FREQUENTLY, AS AN ALTERNATIVE, A "DO NOT PASS" SIGN MAY BE PLACED ON THE REAR OF THE VEHICLE BLOCKING THE LANE.
2. THE DISTANCE BETWEEN THE WORK AND PROTECTION VEHICLES MAY VARY ACCORDING TO TERRAIN, PAINT DRYING TIME, AND OTHER FACTORS. PROTECTION VEHICLES ARE USED TO WARN TRAFFIC OF THE OPERATION AHEAD. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE PROTECTION VEHICLE SHOULD MAINTAIN THE MINIMUM DISTANCE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. THE PROTECTION VEHICLE SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
3. ADDITIONAL PROTECTION VEHICLES TO WARN AND REDUCE THE SPEED OF ONCOMING OR OPPOSING TRAFFIC MAY BE USED. POLICE PATROL CARS MAY BE USED FOR THIS PURPOSE.
4. A TRUCK-MOUNTED ATTENUATOR (TMA) SHOULD BE USED ON THE PROTECTION VEHICLE AND MAY BE USED ON THE WORK VEHICLE.
5. THE WORK VEHICLE SHALL BE EQUIPPED WITH BEACONS, AND THE PROTECTION VEHICLES SHALL BE EQUIPPED WITH TWO HIGH-INTENSITY FLASHING LIGHTS MOUNTED ON THE REAR, ADJACENT TO THE SIGN. PROTECTION AND WORK VEHICLES SHOULD DISPLAY FLASHING OR ROTATING BEACONS BOTH FORWARD AND TO THE REAR.
6. VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGN LOCATED AT A MINIMUM HEIGHT OF 48" ABOVE THE PAVEMENT. SIGN LEGENDS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
7. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
TRAFFIC CONTROL PLAN MOBILE OPERATIONS MULTILANE ROADS AND TWO-LANE ROADS			
ISSUE DATE: OCTOBER 1, 1998			
WORKING NUMBER TCP-11			
SHEET NUMBER 260			

DATE	BY	REVISION
10-1-98	REVISED	CAPTION

STATE	PROJECT NO.
MISS.	



	STATE	PROJECT NO.
	MISS.	

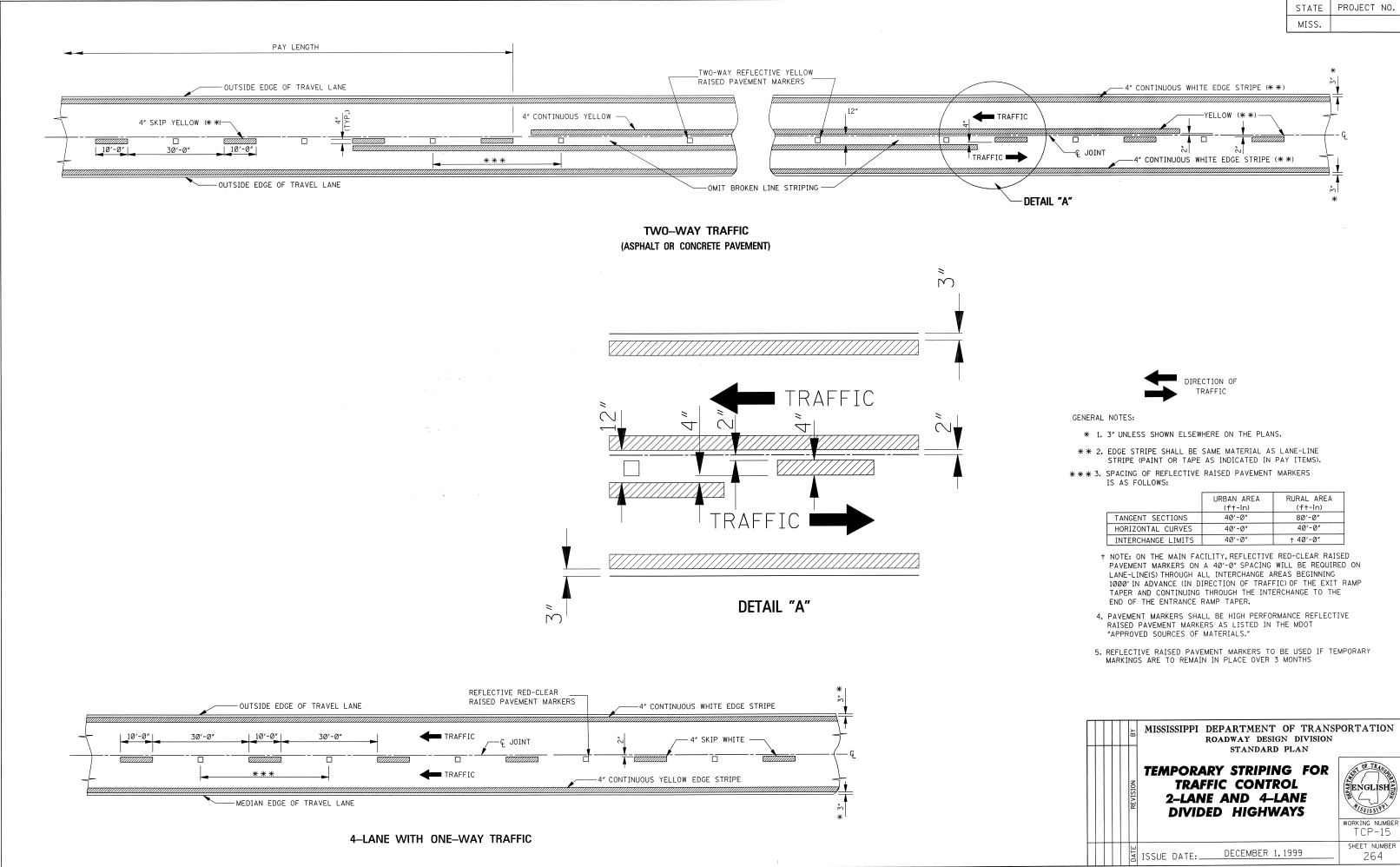
TWO-WAY TRAFFIC

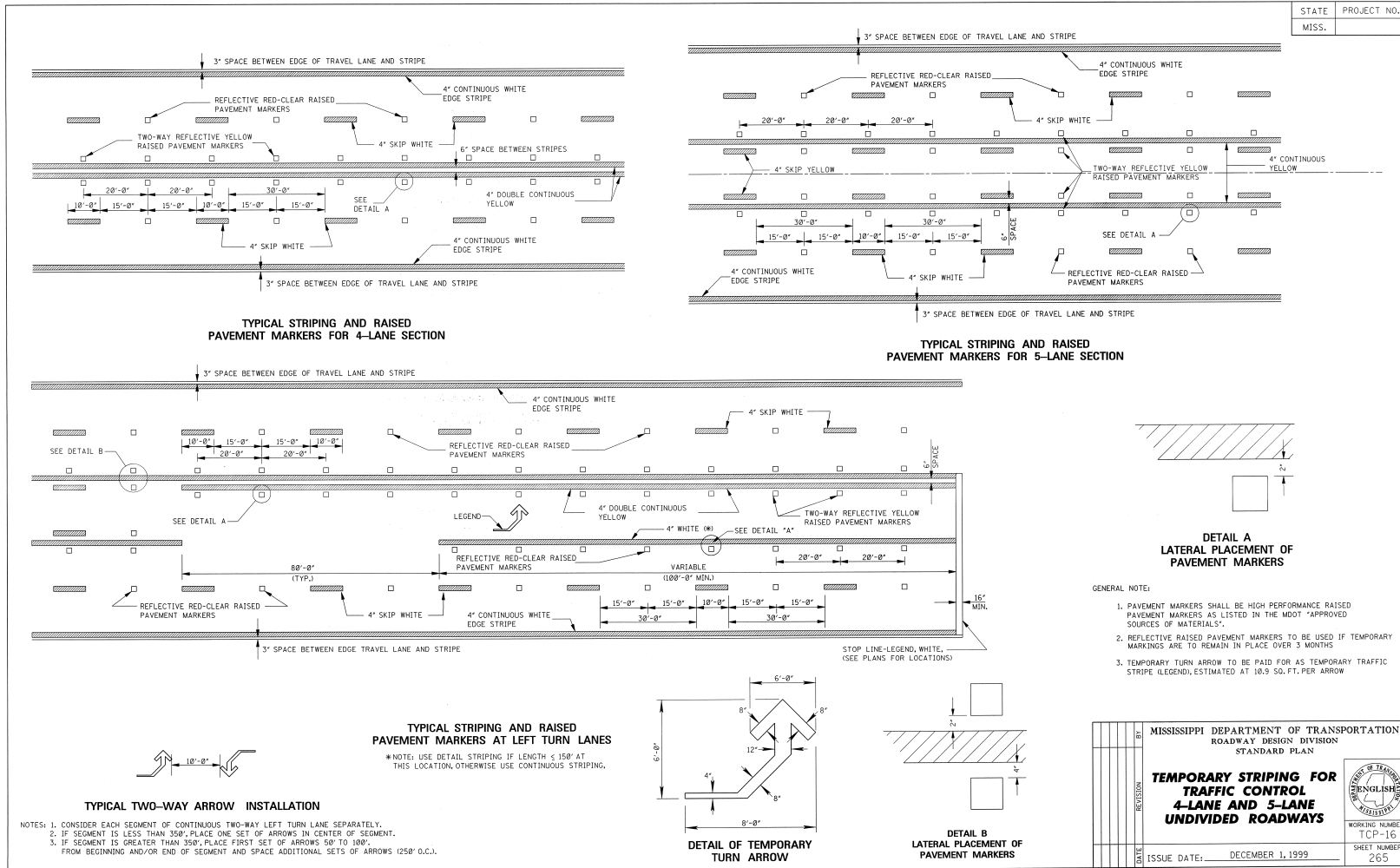
ONE-WAY TRAFFIC

GENERAL NOTES:

1. UNEVEN LANE LINE:
 - A. IF LESS THAN OR EQUAL TO 1/2", NO SIGNS REQUIRED.
 - B. IF GREATER THAN 1/2" AND LESS THAN OR EQUAL TO 2/4", PLACE SIGNS AS SHOWN ON THIS SHEET.
 - C. IF GREATER THAN 2/4", TRAFFIC SHOULD NOT BE ALLOWED TO CROSS UNEVEN LANE LINE.
2. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER MAINTENANCE OF TRAFFIC.
3. THE WB-11 SIGNS SHALL BE SPACED AT 1/4-MILE INTERVALS THROUGHOUT UNEVEN LANE LINE LIMITS.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
TRAFFIC CONTROL PLANS UNEVEN PAVEMENT DETAILS	
WORKING NUMBER TCP-14	SHEET NUMBER 263
DATE: _____ ISSUE DATE: OCTOBER 1, 1998	





MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 1405

CODE: (IS)

| DATE: 03/15/2007

SUBJECT: ERRATA AND MODIFICATIONS TO THE 2004 STANDARD SPECIFICATIONS

<u>Page</u>	<u>Subsection</u>	<u>Change</u>
101	201.01	In the second sentence of the first paragraph, change “salvable” to “salvageable”.
107	202.04	In the fourth sentence of the fourth paragraph, change “yard” to “feet”.
107	202.05	In the list of units measurements for 202-B, add “square foot”.
132	211.03.4	In the second sentence of the second paragraph, change “planted” to “plated”.
192	306.02.4	In the first line of the first paragraph, delete the word “be”.
200	307.03.7	In the fourth sentence of the second paragraph, change “lime-fly ash” to “treated”.
236	401.01	Change the header from “Section 403” to “Section 401”.
242	401.02.3.2	In the first sentence of the third full paragraph, add “1/8” in the blank before the inch mark.
250	401.02.6.3	In the second sentence of the first paragraph on page 250, change “rutting over ” ” to “rutting over 1/8” ”.
253	401.02.6.4.2	In the paragraph preceding the table, change “91.0” to “89.0”.
259	401.03.1.4	In the first paragraph, change “92.0 percent” to “the specified percentage (92.0 or 93.0)”.
269	403.03.2	In the table at the top of page 269, change the PI requirement from “ = ” to “ ≤ ”.

278	404.04	In the second sentence, change the subsection from "401.04" to "403.04".
283	409.02.2	Change "PG 64-22" to "PG 67-22".
294	413.02	In the first sentence of the second paragraph, change "707.02.1.3" to "Subsection 707.02.1.3".
340	511.04	In the second sentence of the second paragraph, change "412" to "512".
349	601.03.3	In the first sentence, change "804.03.2" to "804.03.5".
355	603.02	Change the subsection reference for Joint mortar from "707.03" to "714.11".
369	604.04	In the first sentence, change "601.04" to "Subsection 601.04".
427	619.04	Delete the second paragraph.
442	625.04	In the third paragraph, change "626.04" to "Subsection 626.04".
444	626.03.1.2	Delete the third sentence of the first paragraph.
464	631.02	Change the subsection reference for Water from "714.01.0" to "714.01.1".
570	682.03	Change the subsection number from "682-03" to "682.03".
575	683.10.4	Change the subsection number from "683.10.4" to "683.04".
575	683.10.5	Change the subsection number from "683.10.5" to "683.05".
596	701.02	In the table under the column titled "Cementations material required", change Class F, FA" to "Class F FA,".
603	702.11	In the first sentence, change "702.12" to "Subsection 702.12".
612	703.04.2	In the fifth paragraph, delete "Subsection 703.11 and".
616	703.07.2	In the Percentage By Weight Passing Square Mesh Sieves table, change the No. 10 requirement for Class 7 material from "30 - 10" to "30 - 100".

618	703.13.1	In the first sentence of the first paragraph, change “703.09” to “703.06”.
618	703.13.2	In the first sentence, change “703.09” to “703.06”.
671	712.06.2.2	In the first sentence, change “712.05.1” to “Subsection 712.05.1”.
689	714.11.2	In the first sentence, change “412” to “512”.
709	715.09.5	In the first sentence of the first paragraph, change “guage” to “gauge”.
717	717.02.3.4	In the top line of the tension table, change “1 1/2” to “1 1/8” and change “1 1/8” to “1 1/2”.
741	720.05.2.2	In the last sentence of this subsection, change “720.05.2.1” to “Subsection 720.05.2.1”.
827	803.03.2.3.7.5.2	In the first sentence of the second paragraph, change “803.03.5.4” to “803.03.2.3.4”.
833	803.03.2.6	In the first sentence, change “803.03.7” to “803.03.2.5”.
854	804.02.11	In the last sentence of the first paragraph, change “automatically” to “automatic”.
859	804.02.13.1.3	In the last sentence, change Subsection “804.02.12.1” to “804.02.12”.
879	804.03.19.3.2	In the first sentence of the third paragraph, change “listed on of Approved” to “listed on the Approved”.
879	804.03.19.3.2	In the last sentence of the last paragraph, change “804.03.19.3.1” to “Subsection 804.03.19.3.1”.
962	814.02.3	In the first sentence, change “710.03” to “Subsection 710.03”.
976	820.03.2.1	In the first sentence, change “803.02.6” to “803.03.1.7”.
976	820.03.2.2	In the first sentence, change “803.03.9.6” to “803.03.1.9.2”.
985	Index	Change the subsection reference for Petroleum Asphalt Cement from “702.5” to “702.05”.

985	Index	Change the subsection reference for the Definition of Asphaltic Cement or Petroleum Asphalt from “700.2” to “700.02”.
985	Index	Change the subsection reference for Automatic Batchers from “501.03.2.4” to “804.02.10.4”.
986	Index	Delete “501.03.2” as a subsection reference for Batching Plant & Equipment.
988	Index	Change the subsection reference for the Central Mixed Concrete from “501.03.3.2” to “804.02.11”.
988	Index	Change the subsection reference for the Concrete Batching Plant & Equipment from “501.03.2” to “804.02.11”.
999	Index	Delete “501.03.3.3” as a subsection reference for Truck Mixers.
1001	Index	Change the subsection reference for Edge Drain Pipes from “605.3.5” to “605.03.5”.
1002	Index	Change the subsection reference for Metal Posts from “713.05.2” to “712.05.2”.
1007	Index	Change the subsection reference for Coarse Aggregate of Cement Concrete Table from “703.3” to “703.03”.
1007	Index	Change the subsection reference for Composite Gradation for Mechanically Stabilized Courses Table from “703.8” to “703.08”.
1009	Index	Delete “501.03.3.3” as a subsection reference for Truck Mixers and Truck Agitators.
1010	Index	Delete reference to “Working Day, Definition of”.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1433

CODE: (SP)

DATE: APRIL 4, 2007

SUBJECT: CONTRACT TIME

PROJECT: MP-3000-00(028) / 303158301-- DISTRICT WIDE – DISTRICT 3

Contract time is being established in order to provide time for utility relocations to be completed prior to beginning of contract time.

The calendar date for completion of work to be performed by the Contractor for this project shall be June 27, 2008 which date or extended date as provided in Subsection 108.06 shall be the end of contract time. Except as therein provided, it is anticipated that the Notice of Award will be issued by not later than June 12, 2007 and the Notice to Proceed and Beginning of Contract Time will be July 5, 2007.

No Progress Schedule will be required for this project.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 1434

CODE: (SP)

DATE: 03/22/2007

SUBJECT: Scope of Work

Project: MP-3000-00(028) / 303158301 -- Districtwide

The contract documents do not include an official set of construction plans but may, by reference; include some Standard Drawings when so specified in a Notice to Bidders entitled, “Standard Drawings”. All other references to plans in the contract documents and Standard Specifications for Road and Bridge Construction are to be disregarded.

In general the work to be accomplished using the Pay Items and corresponding specifications as set forth in this contract is for modifying existing curb and sidewalk or constructing new curb and sidewalk to comply with the American Disabilities Act (ADA) requirements, in multiple counties, all within District Three. A table of specific locations by county, city and intersection is provided. Included in this table are estimates of the quantities for each site. However all quantities and locations are subject to the approval of the engineer and will be evaluated on a case by case basis.

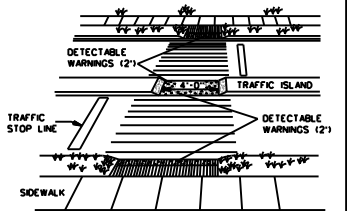
In order to expedite the safe movement of traffic and to protect each phase of the work as it is performed, a firm sequence of operations is essential. The following appropriate items of work shall be begun and continually prosecuted in the order listed:

1. The contractor shall locate all utilities at a specific location before commencing removal of the existing curb and sidewalk at that location.
2. Remove the existing curb and sidewalk, either by jackhammer or by sawing. Payment for the jack hammering and sawing will be absorbed in the removal of concrete sidewalk pay item. Removal of existing curb may damage adjacent asphalt pavement, the contractor should take measures to minimize damage. Repair of asphalt pavement will be absorbed in the Pay Items provided.
3. Construct ADA compliant areas as per attached Standard Drawings.
4. Newly constructed sidewalks must drain to the gutter line. No ponding of water either on the newly constructed sidewalks or accessible ramps is permitted.
5. Vegetation of same variety as surrounding areas shall be established on all disturbed areas; the cost of this work shall be absorbed in the Pay Items provided.

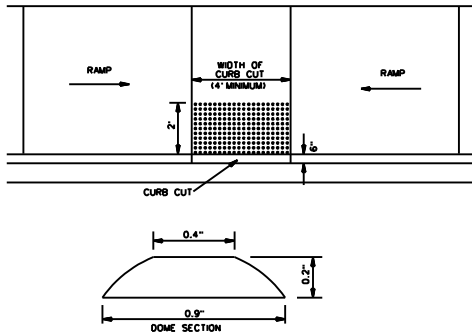
The contractor shall provide all signs and traffic handling devices necessary to safely maintain traffic around or through the work areas.

Incidental work that is necessary to complete the work will not be measured for separate payment and the cost will be absorbed in the Pay Items provided.

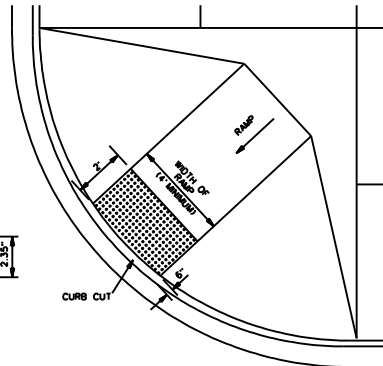
STATE	PROJECT NO.
MSS.	



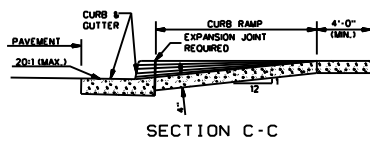
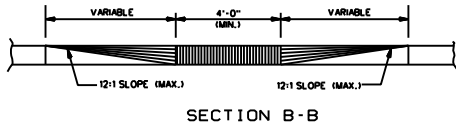
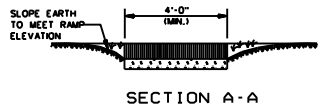
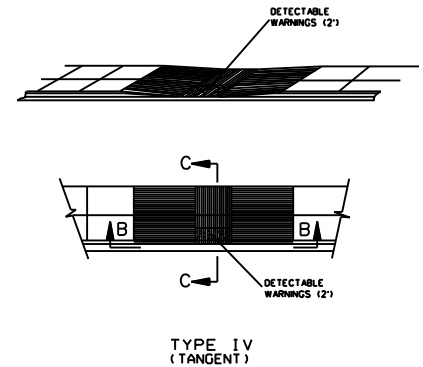
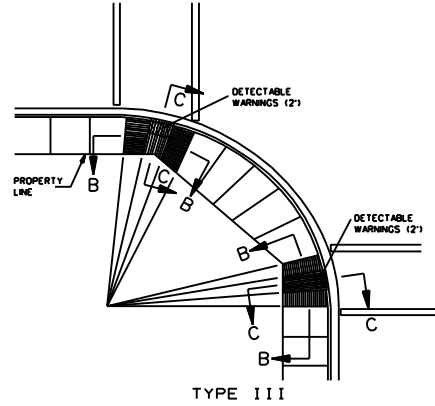
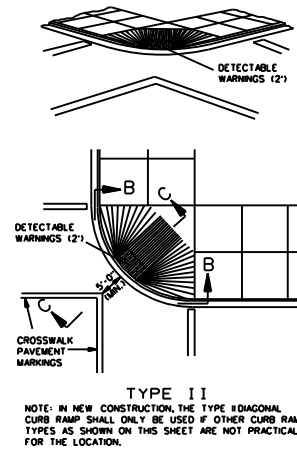
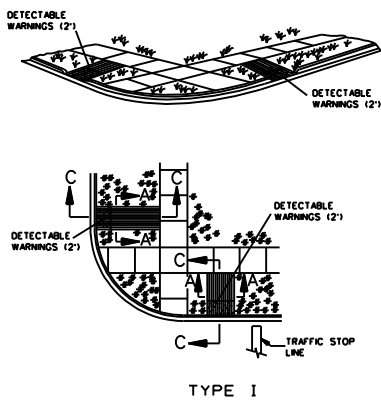
TRAFFIC ISLAND CUTAWAY
NOTE: PASSAGE THROUGH TRAFFIC ISLAND SHALL BE FLUSH WITH ROADWAY.



DETECTABLE WARNINGS (TRUNCATED DOMES) FOR BLIND & LOW VISION PEDESTRIANS



- GENERAL NOTES:**
1. LOCATION AND TYPE OF CURB RAMP SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED.
 2. THE CURB RAMP SHALL BE PAID FOR AS SIDEWALK.
 3. THE THICKNESS OF THE CURB RAMP SHALL BE A MINIMUM OF 4".
 4. ALL RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.
 5. DETECTABLE WARNINGS ARE REQUIRED ON CURB CUT RAMPS AT ALL STREET CROSSINGS AND AT SIGNALIZED DRIVEWAY CROSSINGS.
 6. TRUNCATED DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINATE DIRECTION OF TRAVEL ON THE RAMP TO ALLOW WHEELS TO ROLL BETWEEN DOMES.
 7. THERE SHALL BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AREA AND THE ADJOINING AREAS, OR THE DETECTABLE AREA SHALL BE "SAFETY YELLOW".



MISSISSIPPI DEPARTMENT OF TRANSPORTATION			
CURB - CUT RAMP			
FILENAME:	ADA\ADARAMP.DGN	WORKING NUMBER	SDCCR-
DESIGN YEAR:	CHECKED:	DATE:	SHEET NUMBER:

Bolivar County

City	Route	Street	Cardinal	Curb Removal	Width	Length		Removal		Concrete Sidewalk
						Side 1	Side 2	SF	SY	
Cleveland	MS 8	N. Third Ave.	E	10	4	8	8	32	3.56	3.56
Cleveland	MS 8	N. Second Ave.	W	10	4	8	8	32	3.56	3.56
Cleveland	MS 8	N. First Ave.	W	10	4	8	8	32	3.56	3.56
			E	10	4	8	8	32	3.56	3.56
Cleveland	MS 8	N. Fayette Davis Ave.	E	10	5	8	8	40	4.44	4.44
Cleveland	MS 8	N. Victoria Ave.	W	10	5	8	8	40	4.44	4.44
			E	10	5	8	8	40	4.44	4.44
Cleveland	MS 8	N. Leflore Ave.	NW	20	5	20	20	100	11.11	11.11
			NE	15	5	10	10	50	5.56	5.56
			SW	12	4	8	8	32	3.56	3.56
			SE	12	4	8	8	32	3.56	3.56
Cleveland	MS 8	N. Bolivar Ave.	NW	30	20	10	10	200	22.22	22.22
			NE	16	5	8	8	40	4.44	4.44
			SW	16	4	8	8	32	3.56	3.56
Cleveland	MS 8	N. Pearman Ave.	NW	18	4	16	16	64	7.11	7.11
			NE	18	4	16	16	64	7.11	7.11
			SE	16	4	12	12	48	5.33	5.33
Cleveland	MS 8	N. Bayou Ave.	NW	20	4	8	8	32	3.56	3.56
			NE	18	4	16	16	64	7.11	7.11
			SW	32	8	10	24	136	15.11	15.11
			SE	20	4	10	10	40	4.44	4.44
Cleveland	MS 8	Cotton Row Ave.	NW	18	4	18	18	72	8.00	8.00
			NE	18	4	16	16	64	7.11	7.11
			SW	24	8	12	24	144	16.00	16.00
			SE	18	4	16	16	64	7.11	7.11

Cleveland	MS 8	SharpeAve.	SW	25	4	10	14	48	5.33	5.33
			SE	32	8	10	24	136	15.11	15.11
Cleveland	MS 8	N. Commerce Ave.	NE	30	8	10	20	120	13.33	13.33
			SW	30	8	8	15	92	10.22	10.22
			SE	30	6	8	10	54	6.00	6.00
Cleveland	US 61	Eastend Street	NE	18	3	12	12	36	4.00	4.00
Rosedale	MS 1	N. Elementary Drive	N	12	5	6	6	30	3.33	3.33
			S	12	5	6	6	30	3.33	3.33
Rosedale	MS 1	Raymond Street	N	22	8	12	22	136	15.11	15.11
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	Greely Street	N	22	8	12	22	136	15.11	15.11
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	S. Bruce Street	N	22	8	12	22	136	15.11	15.11
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	N. Bruce Street	N	22	8	12	22	136	15.11	15.11
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	N. Main Street	N	22	10	14	24	190	21.11	21.11
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	Martin Luther King Drive	N	22	8	12	22	136	15.11	15.11
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	Clark Street	N	12	5	6	6	30	3.33	3.33
			S	22	8	12	22	136	15.11	15.11
Rosedale	MS 1	S. Vorhees Street	N	12	5	6	6	30	3.33	3.33
Rosedale	MS 1	N. Vorhees Street	N	24	10	6	6	60	6.67	6.67
			S	12	5	6	6	30	3.33	3.33
Rosedale	MS 1	Asttina Carter Ave.	N	12	5	6	6	30	3.33	3.33
			S	12	5	6	6	30	3.33	3.33

Rosedale	MS 1	Shelby Street	N	12	5	6	6	30	3.33	3.33
			S	18	5	18	18	90	10.00	10.00
Rosedale	MS 1	South Park Street	N	18	5	18	18	90	10.00	10.00
			S	12	4	6	6	24	2.67	2.67
Rosedale	MS 1	North Park Street	N	12	5	6	6	30	3.33	3.33
			S	12	5	6	6	30	3.33	3.33
Shelby	US161	E Hearn Ave	N	0	4	7	7	28	3.11	3.11
			S	0	4	7	7	28	3.11	3.11
Shelby	US161	Third Ave	NW	16	4	8	8	32	3.56	3.56
Shelby	US161	Second Ave	NW	16	5	8	8	40	4.44	4.44
			SW	22	8	16	28	176	19.56	19.56
Mound Bayou	US161	Maginnis Street	NE	22	8	16	16	128	14.22	14.22
Mound Bayou	US161	Mathis Street	NE	18	4	8	8	32	3.56	3.56
			SE	18	4	10	10	40	4.44	4.44
Merigold	US161	Goff Street	SW	18	12	16	16	192	21.33	21.33
			NE	18	4	8	8	32	3.56	3.56
			SE	18	4	8	8	32	3.56	3.56
Benoit	MS 1	MS 448	S	18	4	18	18	72	8.00	8.00
Boyle	MS 446	Bayou Ave.	W	12	4	8	8	32	3.56	3.56
			E	24	4	24	24	96	10.67	10.67
Boyle	MS 446	Jones Bayou Bridge	W	0	4	18	18	72	8.00	8.00
			E	0	4	18	18	72	8.00	8.00
Boyle	MS 446	Sobieski Street	NE	16	4	8	8	32	3.56	3.56
Shaw	MS 446	US 61	S	12	4	12	12	48	5.33	5.33
Shaw	MS 446	Jackson Street	W	8	4	10	10	40	4.44	4.44
			E	8	4	18	18	72	8.00	8.00

Claiborne County

Shaw	MS 446	Walker Street	W	8	4	18	18	72	8.00	8.00
			E	8	4	12	12	48	5.33	5.33
Shaw	MS 446	Elm Street	W	4	4	8	8	32	3.56	3.56
Shaw	MS 446	Unnamed	W	4	4	8	8	32	3.56	3.56
			E	4	4	8	8	32	3.56	3.56
Shaw	MS 446	Mason Street	W	18	5	8	8	40	4.44	4.44
			E	18	4	8	8	32	3.56	3.56
Shaw	MS 446	New West Street	W	12	4	12	12	48	5.33	5.33
			E	12	5	8	8	40	4.44	4.44
Shaw	MS 446	Ellwood Street	E	6	5	8	8	40	4.44	4.44

City	Route	Street	Cardinal	Curb Removal	Width	Legth		Removal		Sidewalk
						Side 1	Side 2	SF	SY	SY
Port Gibson	US 61	Little Bayour Piear Bridge	SW	0	4	15	15	60	6.67	6.67
			SE	0	4	15	15	60	6.67	6.67
			NW	0	4	15	15	60	6.67	6.67
			NE	0	4	15	15	60	6.67	6.67
Port Gibson	US 61	Orange Street	NW	12	8	12	12	64	7.11	7.11
			SW	32	12	18	18	132	14.67	14.67
			NE	20	8	9	9	52	5.78	5.78
			SE	18	6	9	9	39	4.33	4.33
Port Gibson	US 61	Fair Street	NW	32	12	22	22	156	17.33	17.33
			SW	10	8	10	1	56	6.22	6.22
			NE	10	6	12	12	48	5.33	5.33
			SE	38	12	20	20	144	16.00	16.00

Port Gibson	US 61	Walnut Street	NW	28	8	26	26	120	13.33	13.33
			SW	28	8	24	24	112	12.44	12.44
			NE	34	12	18	18	132	14.67	14.67
			SE	34	12	25	25	174	19.33	19.33
Port Gibson	US 61	Carrol Street	NW	24	6	20	20	72	8.00	8.00
			SW	28	8	20	20	96	10.67	10.67
			NE	32	10	20	20	120	13.33	13.33
			SE	36	10	24	24	140	15.56	15.56
Port Gibson	US 61	Chingucpin Street	NW	10	6	18	18	66	7.33	7.33
			SW	40	12	18	18	132	14.67	14.67
			NE	10	6	24	24	84	9.33	9.33
			SE	40	12	18	18	132	14.67	14.67
Port Gibson	US 61	China Street	NW	32	10	18	18	110	12.22	12.22
			SW	10	6	12	12	48	5.33	5.33
			NE	32	10	20	20	120	13.33	13.33
			SE	10	6	16	16	60	6.67	6.67
Port Gibson	US 61	Oak Street	NW	10	6	12	12	48	5.33	5.33
			SW	10	6	12	12	48	5.33	5.33
			NE	10	6	16	16	60	6.67	6.67
			SE	20	12	16	16	120	13.33	13.33
Port Gibson	US 61	Greenwood Street	NW	9	6	14	14	54	6.00	6.00
			NE	20	12	14	14	108	12.00	12.00
			SE	10	6	9	9	39	4.33	4.33
			SW	9	6	9	9	39	4.33	4.33
Port Gibson	US 61	Ramsey Drive	N	7	6	6	6	30	3.33	3.33
Port Gibson	US 61	Horton Drive	N	8	4	6	6	20	2.22	2.22
			S	6	4	4	4	16	1.78	1.78
Port Gibson	US 61	Pege Salassi Field	N	0	4	6	6	20	2.22	2.22
			S	0	4	12	12	32	3.56	3.56

Copiah County

									Concrete	
City	Route	Street	Cardinal	Curb Removal	Width	Legth		Removal		Sidewalk
						Side 1	Side 2	SF	SY	SY
Hazlehurst	US 51	Green Street	NE	6	3	9	9	27	3.00	3.00
Hazlehurst	US 51	Town Square	IS-E	15	6	6	6	36	4.00	4.00
			IS-W	15	6	6	6	36	4.00	4.00
Hazlehurst	US 51	Miller Street	N	4	4	6	6	24	2.67	2.67
			S	4	4	6	6	24	2.67	2.67
Hazlehurst	US 51	Faler Street	N	6	4	8	8	32	3.56	3.56
			S	6	4	8	8	32	3.56	3.56

Holmes County

								Concrete		
City	Route	Street	Cardinal	Curb Removal	Width	Legth		Removal	Sidewalk	
						Side 1	Side 2	SF	SY	SY
Goodman	US 51	Church Street	NW	6	4	16	16	64	7.11	7.11
Goodman	US 51	Hill Street	NW	10	4	6	6	24	2.67	2.67
			SW	10	4	6	6	24	2.67	2.67
Goodman	US 51	MS 14	SW	18	5	13	22	87.5	9.72	9.72
			SE	10	4	6	6	24	2.67	2.67
Goodman	MS 14	Montague Street	SE	0	4	6	6	24	2.67	2.67
Goodman	MS 14	Pine Street	SW	10	4	6	6	24	2.67	2.67
			SE	20	8	6	6	48	5.33	5.33
Goodman	MS 14	Hill Street	NE	0	4	8	8	32	3.56	3.56
			SE	12	5	8	8	40	4.44	4.44
Durant	MS 12	Dog Pen Road	NW	10	4	6	6	24	2.67	2.67

Durant	MS 12	W. Depot Street	NW	24	8	24	20	176	19.56	19.56
			SW	24	8	24	20	176	19.56	19.56
			SE	10	5	8	8	40	4.44	4.44
Durant	US 51	Montgomery Street	SW	12	9	8	8	72	8.00	8.00
Durant	US 51	Lamar Street	NW	12	5	8	8	40	4.44	4.44
			SW	12	9	8	8	72	8.00	8.00
Durant	US 51	Lee Street	NW	12	5	30	30	150	16.67	16.67
			SW	12	9	30	30	270	30.00	30.00
Durant	US 51	Madison Street	NW	10	4	10	10	40	4.44	4.44
Durant	US 51	Hays Street	NE	4	4	8	8	32	3.56	3.56
Durant	US 51	Irby Ave.	NW	5	5	8	8	40	4.44	4.44
			SW	5	5	8	8	40	4.44	4.44
Durant	US 51	Cedar Street	SW	32	10	8	8	80	8.89	8.89
			NE	32	10	8	8	80	8.89	8.89
			SE	32	10	8	8	80	8.89	8.89
Durant	US 51	Magnolia Street	NW	32	10	8	8	80	8.89	8.89
			SW	12	5	8	8	40	4.44	4.44
			SE	12	5	8	8	40	4.44	4.44
Durant	US 51	Mulberry Street	NW	32	10	8	8	80	8.89	8.89
			NE	24	8	24	20	176	19.56	19.56
			SE	24	8	24	20	176	19.56	19.56
Pickens	US 51	Yazoo Street	NE	22	5	16	22	95	10.56	10.56
			SE	12	4	9	3	24	2.67	2.67
Pickens	US 51	1st Street	NW	14	4	9	3	24	2.67	2.67
			NE	14	4	9	3	24	2.67	2.67
			SE	14	4	9	3	24	2.67	2.67
Lexington	MS 12 & 17	Clifton Street	NE	10	4	10	10	40	4.44	4.44
			SE	10	4	15	15	60	6.67	6.67

Lexington	MS 12 & 17	Dr Martin Luther King Dr	NE	24	8	24	20	176	19.56	19.56
			SE	24	8	24	20	176	19.56	19.56
Lexington	MS 12 & 17	Carrolton Street	NW	10	4	16	16	64	7.11	7.11
			SW	24	8	24	20	176	19.56	19.56
			NE	24	8	24	20	176	19.56	19.56
			SE	24	8	24	20	176	19.56	19.56
Lexington	MS 12	MS 17 South	N	18	12	8	8	96	10.67	10.67
			IS	20	8	6	6	48	5.33	5.33
			SE	24	8	24	30	216	24.00	24.00
			SW	24	8	24	30	216	24.00	24.00
Lexington	MS 12/17	Spring Street	E	10	5	8	8	40	4.44	4.44
			IS	20	4	10	10	40	4.44	4.44
Lexington	MS 12 North	MS 17 North	S	12	8	8	8	64	7.11	7.11
			IS	20	8	6	6	48	5.33	5.33
			NE	24	8	24	30	216	24.00	24.00
Lexington	MS 12/17	Depot / Vine	W	10	5	8	8	40	4.44	4.44
			NE	24	8	24	20	176	19.56	19.56
			SE	24	8	24	20	176	19.56	19.56
Lexington	MS 12	Myrtle Street	NW	0	4	8	8	32	3.56	3.56
Lexington	MS 17	Old Balance Due	NW	18	6	18	18	108	12.00	12.00
Lexington	MS 17	Arenia C Mallory Road	NE	14	4	8	12	40	4.44	4.44
Tchula	MS 49E	Main Street	NW	10	4	8	8	32	3.56	3.56
			NE	12	5	8	8	40	4.44	4.44

Humphreys County

								Concrete		
City	Route	Street	Cardinal	Curb Removal	Width	Legth		Removal		Sidewalk
						Side 1	Side 2	SF	SY	SY
Belzoni	MS 7	Third Street	SW	17	5	8	8	40	4.44	4.44
			NE	22	8	15	24	156	17.33	17.33
			SE	22	8	15	24	156	17.33	17.33
Belzoni	MS 7	W. Lincon Street	NW	17	5	8	8	40	4.44	4.44
			SW	22	8	15	24	156	17.33	17.33
			NE	17	5	8	8	40	4.44	4.44
			SE	17	5	8	8	40	4.44	4.44
Belzoni	MS 7	W. First Street	NW	22	8	15	24	156	17.33	17.33
			SW	22	10	16	16	160	17.78	17.78
			NE	22	10	16	16	160	17.78	17.78
			SE	22	8	15	24	156	17.33	17.33
Belzoni	W. First Stre	Judie Thurman Street	NW	15	4	8	8	32	3.56	3.56
			SW	15	4	12	12	48	5.33	5.33

Jefferson County

								Concrete		
City	Route	Street	Cardinal	Crub Removal	Width	Legth		Removal		Sidewalk
						Side 1	Side 2	SF	SY	SY
Fayette	MS 533	Spring Street	NW	6	4	6	6	24	2.67	2.67
			SW	6	4	6	6	24	2.67	2.67

Sharkey County

								Concrete		
City	Route	Street	Cardinal	Crub Removal	Width	Legth		Removal		Sidewalk
						Side 1	Side 2	SF	SY	SY
Cary	US 61	Oak Circle Park	NE	10	4	8	8	32	3.56	3.56
Cary	US 61	Dogwood Street	NE	10	4	10	10	40	4.44	4.44
			SE	10	4	10	10	40	4.44	4.44

Sunflower County

City	Route	Street	Cardinal	Curb Removal	Width	Legth		Removal		Concrete
						Side 1	Side 2	SF	SY	Sidewalk SY
Ruleville	US 49W	East Floyce Street	NW	18	4	6	6	24	2.67	2.67
			NE	18	4	6	6	24	2.67	2.67
Ruleville	US 49W	Pine Street	NW	18	4	6	6	24	2.67	2.67
			SW	18	4	6	6	24	2.67	2.67
			NE	18	4	6	6	24	2.67	2.67
			SE	18	4	6	6	24	2.67	2.67
Ruleville	US 49W	Harrison Street	SW	18	4	12	12	48	5.33	5.33
			SE	18	4	6	6	24	2.67	2.67
Ruleville	US 49W	Elm Street	NW	18	4	6	6	24	2.67	2.67
			SW	18	4	6	6	24	2.67	2.67
			NE	18	4	6	6	24	2.67	2.67
			SE	18	4	6	6	24	2.67	2.67
Ruleville	US 49W	Sanders Street	N	18	4	6	6	24	2.67	2.67
			S	18	4	6	6	24	2.67	2.67
Ruleville	US 49W	Lake Street	N	18	4	6	6	24	2.67	2.67
			S	18	4	6	6	24	2.67	2.67
Ruleville	US 49W	Last Street	SW	18	4	6	6	24	2.67	2.67
			SE	18	4	6	6	24	2.67	2.67
Indianola	US 82	Moody Street	W	12	5	8	8	40	4.44	4.44
Inverness	US 149	Third Street	NW	8	4	8	8	32	3.56	3.56
			SW	16	8	12	12	96	10.67	10.67
			NE	0	4	10	10	40	4.44	4.44
			SE	0	10	18	18	180	20.00	20.00
Inverness	US 149	Fourth Street	SW	0	4	10	10	40	4.44	4.44
			NE	0	4	14	14	56	6.22	6.22
			SE	0	4	9	9	36	4.00	4.00

Inverness	US 149	Fifth Street	SW	0	4	12	12	48	5.33	5.33
			NE	0	4	8	8	32	3.56	3.56
			SE	0	4	8	8	32	3.56	3.56
Inverness	US 149	Sixth Street	NE	0	4	8	8	32	3.56	3.56
			SE	0	4	8	8	32	3.56	3.56
Inverness	Third Street	Avis Ave.	NW	10	4	10	10	40	4.44	4.44
			NE	20	4	20	20	80	8.89	8.89
			SW	20	4	22	22	88	9.78	9.78
			SE	20	4	22	22	88	9.78	9.78
Moorehead	MS 3	Lucus Streets Road	NE	10	4	8	8	32	3.56	3.56
Moorehead	MS 3	Chreey Street	NW	12	4	8	8	32	3.56	3.56
			SW	12	4	8	8	32	3.56	3.56
			NE	12	5	8	8	40	4.44	4.44
			SE	12	5	8	8	40	4.44	4.44
Moorehead	MS 3	E. Delta Ave.	NW	18	5	12	12	60	6.67	6.67
			SW	12	4	8	8	32	3.56	3.56
Moorehead	MS 3	Bayou Drive	NE	12	5	12	12	60	6.67	6.67
			SE	12	5	10	10	50	5.56	5.56
Moorehead	MS 3	Brookside Ave.	NE	10	5	8	8	40	4.44	4.44
			SE	12	5	12	12	60	6.67	6.67
Moorehead	MS 3	S. Southern Ave.	NW	6	4	8	8	32	3.56	3.56
Moorehead	MS 3	N. Southern Ave.	NE	6	4	8	8	32	3.56	3.56
Moorehead	MS 3	Washington Street	NW	24	8	24	14	152	16.89	16.89
			SW	24	8	24	14	152	16.89	16.89
			NE	22	8	24	14	152	16.89	16.89
Moorehead	MS 3	Martin Luther King	NE	10	4	8	8	32	3.56	3.56
			SE	10	4	8	8	32	3.56	3.56
Moorehead	MS 3	Sunflower Street	SE	12	4	8	8	32	3.56	3.56

Washington County

								Concrete		
City	Route	Street	Cardinal	Curb Removal	Width	Legth		Removal		Sidewalk SY
						Side 1	Side 2	SF	SY	
Greenville	Broadway	Deaton Street	NE	12	6	12	12	48	5.33	5.33
			NW	12	6	12	12	48	5.33	5.33
Greenville	MS 1	Lisa Drive	NE	14	7	8	8	42	4.67	4.67
Greenville	MS 1	Reed Road	NW	12	4	12	12	32	3.56	3.56
			NE	10	4	8	8	24	2.67	2.67
Greenville	MS 1	Robertshaw Street	SE	30	8	10	10	56	6.22	6.22
Greenville	MS 1	Alexander Street	NE	12	4	10	10	28	3.11	3.11
Greenville	MS 1	Union Street	SW	20	8	10	10	56	6.22	6.22
Greenville	MS 1	Old Leland Road	NE	18	4	18	18	44	4.89	4.89
Leland	US 82	Old 61	SW	18	4	18	18	44	4.89	4.89
Arcola	MS 438	Old 61	SW	12	4	12	12	32	3.56	3.56
			SE	18	5	18	18	55	6.11	6.11
Arcola	US 82	Hermitage Road	SW	18	5	18	18	90	10.00	10.00
Hollandale	MS 12	E. Crouch / E. Ave. South	NW	20	8	10	18	112	12.44	12.44
			NE	10	4	12	12	48	5.33	5.33
			SE	24	8	22	14	144	16.00	16.00
Hollandale	MS 12	W. Avenue	NW	10	4	8	8	32	3.56	3.56
			SW	10	4	8	8	32	3.56	3.56
			NE	20	8	10	10	80	8.89	8.89
			SE	10	4	8	8	32	3.56	3.56
TOTALS:				4459				2220.39	2220.39	

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 1453

CODE: (SP)

DATE: 4/10/2007

SUBJECT: Petroleum Products Base Prices For Contracts Let in May, 2007

REFERENCE: Subsection 109.07

The following base prices are to be used for adjustment in compensation due to changes in costs of petroleum products:

FUELS

	<u>Per Gallon</u>	<u>Per Liter</u>
Gasoline	\$2.4848	\$0.6564
Diesel	\$2.7355	\$0.7226

MATERIALS OF CONSTRUCTION

<u>ASPHALT CEMENT</u>	<u>Per Gallon</u>	<u>Per Ton</u>	<u>Per Liter</u>	<u>Per Metric Ton</u>
Viscosity Grade AC-5	\$1.4289	\$339.00	\$0.3775	\$373.68
Viscosity Grade AC-10	\$1.4120	\$335.00	\$0.3730	\$369.27
Viscosity Grade AC-20	\$1.4030	\$332.86	\$0.3706	\$366.91
Viscosity Grade AC-30	\$1.3939	\$330.71	\$0.3682	\$364.54
Grade PG 64-22	\$1.3964	\$331.29	\$0.3689	\$365.18
Grade PG 67-22	\$1.3769	\$326.67	\$0.3637	\$360.09
Grade PG 76-22	\$1.7949	\$425.83	\$0.4742	\$469.39
Grade PG 82-22	\$2.0074	\$476.25	\$0.5303	\$524.97

EMULSIFIED ASPHALTS

Grade EA-4 (SS-1)	\$1.3453	\$0.3554
Grade RS-2C (CRS-2)	\$1.3180	\$0.3482
Grade CRS-2P	\$1.5632	\$0.4130

PRIMES

Grade EA-1 & MC-70	\$1.7511	\$0.4626
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MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-105-3

CODE: (IS)

DATE: 02/14/2006

SUBJECT: Cooperation By Contractor

Section 105, Control of Work, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is modified as follows:

907-105.05--Cooperation by Contractor. In the third sentence of the second paragraph of Subsection 105.05 on page 35, change “Notice to Proceed” to “Notice of Award”.

Delete the fourth paragraph of Subsection 105.05 on page 35, and substitute the following.

The Contractor shall also designate a responsible person whose primary duty shall be to monitor and maintain the effectiveness of the erosion control plan, including NPDES permit requirements. This responsible person must be a Certified Erosion Control Person certified by an organization approved by the Department. Prior to or at the pre-construction conference, the Contractor shall designate in writing the Certified Erosion Control Person to the Project Engineer. The designated Certified Erosion Control Person shall be assigned to only one (1) project. When special conditions exist, such as two (2) adjoining projects or two (2) projects in close proximity, the Contractor may request in writing that the State Construction Engineer approve the use of one (1) Certified Erosion Control Person for both projects. The Contractor may request in writing that the Engineer authorize a substitute Certified Erosion Control Person to act in the absence of the Certified Erosion Control Person. The substitute Certified Erosion Control Person must also be certified by an organization approved by the Department. A copy of the Certified Erosion Control Person's certification must be included in the Contractor's Protection Plan as outlined in Subsection 907-107.22.1. This in no way modifies the requirements regarding the assignment and availability of the superintendent.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO SPECIAL PROVISION NO. 907-107-1

DATE: 03/21/2006

SUBJECT: Liability Insurance

In the first sentence of the first paragraph of Subsection 907-107.14.2.1 on page 1, change “\$300,000 each occurrence” to “\$500,000 each occurrence”.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-107-1

CODE: (IS)

DATE: 05/03/2004

SUBJECT: Liability Insurance

Section 107, Legal Relations and Responsibility to Public, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-107.14.2--Liability Insurance. Delete in toto Subsection 107.14.2 beginning on page 60 and substitute:

907-107.14.2.1--General. The Contractor shall carry Contractor's liability, including subcontractors and contractual, with limits not less than: \$300,000 each occurrence; \$1,000,000 aggregate; automobile liability - \$500,000 combined single limit - each accident; Workers' Compensation and Employers' Liability - Statutory & \$100,000 each accident; \$100,000 each employee; \$500,000 policy limit. Each policy shall be signed or countersigned by a Mississippi Resident Agent of the insurance company.

The Contractor shall have certificates furnished to the Department from the insurance companies providing the required coverage. The certificates shall be on the form furnished by the Department and will show the types and limits of coverage.

907-107.14.2.2--Railroad Protective. The following provisions are applicable to all work performed under a contract on, over or under the rights-of-way of each railroad shown on the plans.

The Contractor shall assume all liability for any and all damages to work, employees, servants, equipment and materials caused by railroad traffic.

Prior to starting any work on railroad property, the Contractor shall furnish satisfactory evidence to the Department that insurance of the forms and amounts set out herein in paragraphs (a) and (b) has been obtained. Also, the Contractor shall furnish similar evidence to the Railroad Company that insurance has been obtained in accordance with the Standard Provisions for General Liability Policies and the Railroad Protective Liability Form as published in the Code of Federal Regulations, 23 CFR 646, Subpart A. Evidence to the Railroad Company shall be in the form of a Certificate of Insurance for coverages required in paragraph (b), and the original policy of the Railroad Protective Liability Insurance for coverage required in paragraph (a).

All insurance herein specified shall be carried until the contract is satisfactorily complete as evidenced by a release of maintenance from the Department.

The Railroad Company shall be given at least 30 days notice prior to cancellation of the Railroad Protective Liability Insurance policy.

For work within the limits set out in Subsection 107.18 and this subsection, the Contractor shall provide insurance for bodily injury liability, property damage liability and physical damage to property with coverages and limits no less than shown in paragraphs (a) and (b). Bodily injury shall mean bodily injury, sickness, or disease, including death at anytime resulting therefrom. Property damage shall mean damages because of physical injury to or destruction of property, including loss of use of any property due to such injury or destruction. Physical damage shall mean direct and accidental loss of or damage to rolling stock and their contents, mechanical construction equipment or motive power equipment.

(a) **Railroad Protective Liability Insurance** shall be purchased on behalf of the Railroad Company with limits of \$2,000,000 each occurrence; \$6,000,000 aggregate applying separately to each annual period for lines without passenger trains. If the line carries passenger train(s), railroad protective liability insurance shall be purchased on behalf of the Railroad Company with limits of \$5,000,000 each occurrence; \$10,000,000 aggregate applying separately to each annual period.

Coverage shall be limited to damage suffered by the railroad on account of occurrences arising out of the work of the Contractor on or about the railroad right-of-way, independent of the railroad's general supervision or control, except as noted in paragraph 4 below.

Coverage shall include:

- (1) death of or bodily injury to passengers of the railroad and employees of the railroad not covered by State workmen's compensation laws,
- (2) personal property owned by or in the care, custody or control of the railroads,
- (3) the Contractor, or any of the Contractor's agents or employees who suffer bodily injury or death as a result of acts of the railroad or its agents, regardless of the negligence of the railroads, and
- (4) negligence of only the following classes of railroad employees:
 - (i) any supervisory employee of the railroad at the job site
 - (ii) any employee of the railroad while operating, attached to, or engaged on, work trains or other railroad equipment at the job site which are assigned exclusively to the Contractor, or
 - (iii) any employee of the railroad not within (i) or (ii) above who is specifically loaned or assigned to the work of the Contractor for prevention of accidents or protection or property, the cost of whose services is borne specifically by the Contractor or Governmental authority.

(b) **Regular Contractor's Liability**, including subcontractors, XCU and railroad contractual with limits of \$1,000,000 each occurrence; \$2,000,000 aggregate. **Automobile** with limits of \$1,000,000 combined single limit any one accident; **Workers' Compensation and Employer's Liability** - statutory and \$100,000 each accident; \$100,000 each employee; \$500,000 policy limit. **Excess/Umbrella Liability** \$5,000,000 each occurrence; \$5,000,000 aggregate. All coverage to be issued in the name of the Contractor shall be so written as to furnish protection to the Contractor respecting the Contractor's operations in performing work covered by the contract. Coverage shall include protection from damages arising out of bodily injury or death and damage or destruction of property which may be suffered by persons other than the Contractor's own employees.

In addition, the Contractor shall provide for and on behalf of each subcontractor by means of a separate and individual liability and property damage policy to cover like liability imposed upon the subcontractor as a result of the subcontractor's operations in the same amounts as contained above; or, in the alternative each subcontractor shall provide same.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-107-2

CODE: (IS)

DATE: 08/12/2005

SUBJECT: Permits, Licenses and Taxes

Section 107, Legal Relations and Responsibility to Public, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-107.02--Permits, Licenses and Taxes. Delete in toto Subsection 107.02 on page 49 and substitute the following:

The Contractor or any Subcontractor shall have the duty to determine any and all permits and licenses required and to procure all permits and licenses, pay all charges, fees and taxes and issue all notices necessary and incidental to the due and lawful prosecution of the work. At any time during the life of this contract, the Department may audit the Contractor's or Subcontractor's compliance with the requirements of this section.

The Contractor or any Subcontractor is advised that the "Mississippi Special Fuel Tax Law", Section 27-55-501, et seq. and the Mississippi Use Tax Law, Section 27-67-1, et seq., and their requirements and penalties, apply to any contract or subcontract for construction, reconstruction, maintenance or repairs, for contracts or subcontracts entered into with the State of Mississippi, any political subdivision of the State of Mississippi, or any Department, Agency, Institute of the State of Mississippi or any political subdivision thereof.

The Contractor or any Subcontractor will be subject to one or more audits by the Department during the life of this contract to make certain that all applicable fuel taxes, as outlined in Section 27-55-501, et seq., and any sales and/or use taxes, as outlined in Section 27-67-1, et seq. are being paid in compliance with the law. The Department will notify the Mississippi State Tax Commission of the names and addresses of any Contractors or Subcontractors.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-108-11

CODE: (IS)

DATE: 04/21/2006

SUBJECT: Prosecution and Progress

Section 108, Prosecution and Progress, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-108.01--Subletting of Contract.

907-108.01.1--General. At the end of the last paragraph of Subsection 108.01.1 on page 73, add the following:

The Engineer will have the authority to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to make prompt payment within 15 calendar days as required above, or failure to submit the required OCR-484 Form, Certification of Payments to Subcontractors, which is also designed to comply with prompt payment requirements.

907-108.02--Notice To Proceed. Delete the fourth paragraph of Subsection 108.02 on page 75 and substitute the following:

Upon written request from the Contractor and if circumstances permit, the Notice to Proceed may be issued at an earlier date subject to the conditions stated therein. The Contractor shall not be entitled to any monetary damages or extension of contract time for any delay claim or claim of inefficiency occurring between the early issuance Notice To Proceed date and the Notice to Proceed date stated in the contract.

907-108.06.1.2--Contract Time Assessment. At the end of the eighth paragraph of Subsection 108.06.1.2 on page 81, add the following:

When the approved progress schedule indicates that a controlling phase(s) is to be completed prior to December 1 and the physical features of the phase(s) have not been satisfactorily completed, beginning on December 1 the miscellaneous phase will be shown as the only active phase during the months of December, January, and February. Under this condition, time units, monthly time units divided by monthly calendar days, will be assessed in accordance with the applicable column in the TABLE OF TIME UNITS. If the physical features of the phase(s) have not been completed by March 1, the phase will resume as a controlling phase and time assessment will be made accordingly.

Delete the fourth and fifth sentence of the thirteenth paragraph of Subsection 108.06.1.2 on page 82, and substitute the following:

In the event mutual agreement cannot be reached, the Contractor will be allowed a maximum of 25 calendar days following the Contractor's receipt of the monthly report in question to file a protest Notice of Claim in accordance with the provisions of Subsection 105.17. Otherwise, the Engineer's assessment shall be final unless mathematical errors of assessment are subsequently found to exist.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO SPECIAL PROVISION NO. 907-109-3

DATE: 11/21/2006

SUBJECT: Changes in Material Costs

After the last paragraph of Subsection 907-109.06.1 on page 1, add the following:

907-109.07--Changes in Material Costs. Delete the second sentence of the first paragraph of Subsection 109.07 on page 95, and substitute the following:

When a pay item on the bid sheets indicate that an adjustment is allowed and when a notice to bidders is included in the contract showing current monthly base prices, an adjustment will be provided as follows:

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-109-3

CODE: (IS)

DATE: 04/06/2006

SUBJECT: Partial Payment

Section 109, Measurement and Payment, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-109.04--Extra and Force Account Work. Delete the first sentence of the second paragraph of Subsection 109.04 under (d) on page 92 and substitute the following:

In the event an agreement cannot be reached for a particular piece of equipment, the book entitled "Rental Rate Blue Book For Construction Equipment" as published by EquipmentWatch® and is current at the time the force account work is authorized will be used to determine equipment ownership and operating expense rates.

907-109.06--Partial Payment.

907-109.06.1--General. In the fourth sentence of the third paragraph of Subsection 109.06.1 on page 94, change "15 calendar days" to "25 calendar Days".

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-701-2

CODE: (IS)

DATE: 01/12/2006

SUBJECT: Portland Cement

Section 701, Hydraulic Cement, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-701.02--Portland Cement. Delete the [third paragraph and](#) table in Subsection 701.02 on page 596, and substitute the following:

[When Portland cement concrete or cement for soil stabilization is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash \(FA\), ground granulated blast furnace slag \(GGBFS\), or metakaolin shall be as follows:](#)

Cementitious Materials for Soluble Sulfate Conditions

Sulfate Exposure	Water-soluble sulfate (SO ₄) in soil, % by mass	Sulfate (SO ₄) in water, ppm	Cementitious material required
Moderate and Seawater	0.10 - 0.20	150 - 1500	Type II^{* **} cement, or Type I cement with one of the following replacements of cement: 25% Class F, FA, or 50% GGBFS, or 10% metakaolin
Severe	0.20 - 2.00	1500 - 10,000	Type II[*] cement with one of the following replacements of cement: 25% Class F, FA, or 50% GGBFS, or 10% metakaolin

* Type I cement with a maximum 8% tricalcium aluminate may be used in lieu of Type II cement.

** [Class F, FA or GGBFS may be added as a replacement for Portland cement in accordance the proportions as listed in this table.](#)

[Class C fly ash shall not be used as a replacement for Portland cement in any of the sulfate exposure conditions listed above.](#)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-711-3

CODE: (IS)

DATE: 09/26/2005

SUBJECT: Synthetic Structural Fiber Reinforcement

Section 711, Reinforcement and Wire Rope, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After Subsection 711.03.4.3 on page 665, add the following:

907-711.04--Synthetic Structural Fiber. Synthetic structural fibers shall meet the requirements of ASTM Designation: C 1116, Section 4.1.3, Note 3. The fibers shall be monofilament made of polypropylene or polypropylene/polyethylene blend meeting the following conditions:

<u>Property</u>	<u>Results</u>
Length, minimum	1.5 inches
Aspect Ratio (length / equivalent diameter)	90
Breaking tenacity, minimum *	530 mN/tex
(Tensile Strength, minimum	70 ksi)
Chord modulus, minimum *	980 cN/tex
(Modulus of Elasticity, minimum	1,300 ksi)

* When tested in accordance with ASTM Designation: D 3822

The dosage rate for the fibers shall be a minimum of three pounds per cubic yard (3 lb / yd³).
The dosage rate for the fibers when used in pile encasements shall be a minimum of four pounds per cubic yard (4 lb / yd³).

The manufacturer shall furnish the Engineer three copies of the certified test report(s) showing results of all required tests, and certification that the material meets the specifications.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-714-2

CODE: (IS)

DATE: 1/23/2006

SUBJECT: Miscellaneous Materials

Section 714, Miscellaneous Materials, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete Subsection 714.07 on page 682 and substitute the following:

907-714.07--Other Cementitious Materials.

907-714.07.1--Metakaolin.

907-714.07.1.1--General. Metakaolin shall only be used to bring the cementitious materials in Portland cement concrete and cement for soil stabilization into compliance with the requirements for cementitious materials exposed to soluble sulfate conditions. The approval of each metakaolin source shall be on a case by case basis as determined by the State Materials Engineer. Source approval will be based on, but not limited to, review of the proposed source's quality control program, production history, certified test reports, certification of shipment from the supplier, and job control sampling and testing requirements.

The Contractor shall provide suitable means for storing and protecting the metakaolin against dampness and contamination. Metakaolin which has become partially set, caked, or contains lumps shall not be used.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing, or other additions made to the metakaolin during production.

Metakaolin from different sources shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer. In addition to these requirements, metakaolin shall meet the following specific requirements.

907-714.07.1.2--Specific Requirements. Metakaolin shall meet the requirements of AASHTO Designation: M 295 Class N with the following modifications:

1. The sum of $\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$ shall be at least 85%. The Material Safety Data Sheet shall indicate that the amount of crystalline silica, as measured by National Institute of Occupation Safety and Health (NIOSH) 7500 method, after removal of the mica interference, is less than 1.0%.
2. The loss on ignition shall be less than 3.0%.
3. The available alkalis, as equivalent Na_2O , shall not exceed 1.0%.
4. The amount of material retained on a No. 325 mesh sieve shall not exceed 1.0%.
5. The strength activity index at seven (7) days shall be at least 85%.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-804-4

CODE: (SP)

DATE: 03/16/2006

SUBJECT: Concrete Bridges And Structures

Section 804, Concrete Bridges And Structures, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby deleted in toto and replaced as follows:

SECTION 907-804--CONCRETE BRIDGES AND STRUCTURES

907-804.01--Description. This work consists of constructing concrete bridges and structures in accordance with these specifications and in reasonably close conformity with the dimensions, designs, lines, and grades indicated on the plans or established.

Construction of box bridges shall be in accordance with Sections 601 and 602.

907-804.02--Materials.

907-804.02.1--General. The materials used in this construction, when sampled and tested in accordance with 700.03, shall meet the requirements of the following subsections:

Portland Cement.....	701.01 and 701.02
Admixtures.....	713.02
Fly Ash.....	714.05
Water.....	714.01.1 and 714.01.2
Fine Aggregate.....	703.02
Coarse Aggregate.....	703.03
Curing Materials	713.01
Joint Materials.....	707.01, 707.02, and 707.07
Structural Steel Joints and Bearing Devices	717.01
Sheet Copper.....	716.07.2
Bronze Bearing Devices.....	716.06
Copper-Alloy Bearing Devices	716.07.1
Self-Lubricating Bearing Plates	716.08
Bearing Pads	714.10
Wire Rope or Wire Cable for Prestressed Concrete	700.01 and 711.03
Sprayed Finish for Concrete Surface	714.12
Reinforcing Steel	711.02

The Engineer's approval of sources of lightweight aggregates will be based on early establishment by the Contractor of the proven ability of the supplier to produce satisfactory aggregate. (Reference is made to Subsection 102.14)

907-804.02.2--Use, Care and Handling. The use, care and handling of materials shall conform to the applicable requirements of Subsection 501.03.10 and the specific requirements of 907-804.02.4 and 907-804.02.5. Unless otherwise authorized, only fine aggregate or coarse aggregate of one type and from the same source shall be used in the construction of any one unit of a structure. Should the Contractor, with written permission of the Engineer, elect to substitute high early strength cement for cement of the type specified, he will not receive additional compensation for the substitution.

907-804.02.3--Sampling and Testing. Sampling and testing for acceptance and control purposes shall be in accordance with Subsection 700.03 and the other subsections of Division 700 as applicable.

The Contractor, without extra compensation, shall supply the Engineer with the necessary representative concrete mix for making test specimens of concrete in accordance with Department SOP.

907-804.02.4--Care and Storage of Concrete Aggregates. The handling and storage of aggregates shall be such as to prevent segregation or contamination with foreign materials. The Engineer may require that aggregates be stored on separate platforms at satisfactory locations.

Lightweight aggregates shall be stored in floored bins adjacent to the mixing plant. Methods of storing and handling shall be such that the materials will remain uniform within specification requirements. The Contractor shall maintain aggregates in a uniform moist condition for a period of at least 72 hours prior to use. The aggregates in this condition shall contain at least 50% of the water that they would absorb during 24 hours of complete immersion, but shall be less than completely saturated. Bins shall be covered to prevent excessive wetting of the aggregate, and bin floors shall be sloped to prevent puddling under the aggregate.

When specified, coarse aggregates shall be separated into two or more sizes in order to secure greater uniformity of the concrete mixture. Different sizes of aggregate shall be stored in separate stock piles sufficiently removed from each other to prevent the material at the edges of the piles from becoming intermixed.

907-804.02.5--Storage of Cement. All cement shall be stored in suitable weather-proof buildings or bins. These buildings or bins shall be placed in locations approved by the Engineer. Provision for storage shall be ample, and the shipments of cement as received shall be stored separately or other provisions made to the satisfaction of the Engineer for easy access for the identification, inspection, and sampling of each shipment as deemed desirable. Stored cement shall meet the test requirements at any time after storage when a retest is ordered by the Engineer.

On small jobs, open storage consisting of a raised platform and ample waterproof covering may be permitted by written authorization from the Engineer.

When specified, the Contractor shall keep accurate records of deliveries of cement and of its use in the work. Copies of these records shall be supplied to the Engineer in the form he requires.

907-804.02.6--Classification and Uses of Concrete. When a specific class of concrete is not specified on the plans or in the contract documents, the structure or parts thereof shall be constructed with the class of concrete as directed by the Engineer.

The classes and their uses are as follows:

- (1) Class AA - Concrete for bridge construction and concrete exposed to seawater.
- (2) Class A - Concrete for use where indicated.
- (3) Class B - General use, heavily reinforced sections, cast-in-place concrete piles, and conventional concrete piles.
- (4) Class C - Massive sections or lightly reinforced sections.
- (5) Class D - Massive unreinforced sections and riprap.
- (6) Class F - Concrete for prestressed members.
- (7) Class FX - Extra strength concrete for prestressed members, as shown on plans.
- (8) Class S - For all seal concrete deposited under water.
- (9) Class DS - Drilled Shaft Concrete

907-804.02.7--Composition of Concrete.

907-804.02.7.1--General. In general, a mixture shall be used which contains the minimum quantity of water consistent with the required workability and shall be such that:

- A. The mortar clings to the coarse aggregate;
- B. The concrete is not sufficiently fluid to segregate when transported to the place of deposit;
- C. The concrete shall settle into place when deposited in forms and vibrated;
- D. The mortar shall show no free water when removed from the mixer; and
- E. The upper layer of the set concrete shall show a cement film on the surface but shall be free from laitance.

907-804.02.8--Blank.

907-804.02.9--Blank.

907-804.02.10--Portland Cement Concrete Mix Design. At least 30 days prior to production of concrete, the Contractor shall submit to the Engineer proposed concrete mix designs complying with TMD 21-12-00-000. Materials shall be from approved sources meeting the requirements of the Standard Specifications. Proportions for the mix designs shall be for the class concrete required by the contract plans and shall meet the requirements of the "Master

Proportion Table for Structural Concrete Design” listed in Table 3. The concrete producer shall assign a permanent unique mix number to each mix design. Each mix design shall be field verified as required in Subsection 907-804.02.10.3. Acceptable field verification data shall be required for final approval of a mix design. All concrete mix designs will be reviewed by the Central Laboratory prior to use. Concrete mix designs disapproved will be returned to the Contractor with a statement explaining the disapproval.

Table 3
MASTER PROPORTION TABLE FOR STRUCTURAL CONCRETE DESIGN

Class	Coarse Aggregate Size No. *	Maximum Water/ Cementitious ** Ratio	Specified Compressive Strength (F'_c) psi	Maximum Slump *** inches	Total Air Content %
AA	57 or 67	0.45	4000	3	3.0 to 6.0
A	57 or 67	0.45	4000	3	3.0 to 6.0
B	57 or 67	0.50	3500	4	3.0 to 6.0
C	57 or 67	0.55	3000	4	3.0 to 6.0
D	57 or 67	0.70	2000	4	3.0 to 6.0
F	67	0.40	5000	3	****
FX	67	(As required by special provisions)		3	****
S	57 or 67	0.45	3000	8	3.0 to 6.0
DS	67	0.45	4000	*****	****

* Maximum size aggregate shall conform to the concrete mix design for the specified aggregate.

** Maximum replacement of Portland cement by weight is 25% for fly ash or 50% for ground granulated blast furnace slag. The addition of fly ash as a replacement for cement will not be permitted in Type IP blended hydraulic cement, portland cement combined with ground granulated blast furnace slag or Type III portland cement when specified in the contract.

*** The slump may be increased up to 6 inches with an approved mid-range water reducer or up to 8 inches with an approved type F or G high range water reducer. A mid-range water reducer is classified as a water reducer that reduces the mix water a minimum of 8% when compared to a control mix with no admixtures. Minus slump requirements shall meet those set forth in Table 3 of AASHTO Designation: M157 specifications.

**** No entrained air except for pilings exposed to seawater.

***** Class DS Concrete for drilled shafts shall have an 8 ± 1 -inch slump. In the event the free fall method of concrete placement is used, the slump shall be 6 ± 1 -inch. No fly ash, ground granulated blast furnace slag, or F or G high range water reducers allowed in drilled shaft concrete. A slump retention admixture is required.

Either Type A, D, F, G, or mid-range chemical admixture, shall be used in all classes of concrete, except as noted above for drilled shaft concrete. Any combinations of water reducing admixtures shall be approved by the Engineer before their use.

907-804.02.10.1--Proportioning of Portland Cement Concrete Mix Design. Proportioning of Portland cement concrete shall be based on an existing mix of which the producer has field experience and documentation or based on a recently batched laboratory mix tested according to the required specifications.

907-804.02.10.1.1--Proportioning on the Basis of Previous Field Experience of Trial Mixtures. Where a concrete production facility has a record, based on at least 10 consecutive strength tests within the past 12 months from a mixture not previously used on Department projects, the standard deviation shall be calculated. The record of tests from which the standard deviation is calculated shall:

- a) Represent similar materials and conditions to those expected. Changes in materials and proportions within the test record shall not have been more closely restricted than those for the proposed work.
- b) Represent concrete produced to meet a specified strength.
- c) Consist of 10 consecutive tests, average of two cylinders per test, tested at 28 days.

The standard deviation, s , shall be calculated as:

$$s = \left[\sum (X_i - \bar{X})^2 \div (N - 1) \right]^{1/2}$$

where:

X_i = the strength result of an individual test
 \bar{X} = the average of individual tests in the series
 N = number of tests in the series

When the concrete production facility does not have a record of tests for calculation of standard deviation, as required in the above formula, the requirements of Subsection 907-804.02.10.1.2 shall govern.

The required average compressive strength (f'_{cr}) used as the basis for selection of concrete proportions shall conform to the inequality listed below, while using a standard deviation, s , calculated as shown above.

$$\bar{X} \geq f'_{cr}$$

where:

$$f'_{cr} = f'_c + 1.43s$$

where:

f'_c = specified compressive strength of concrete, psi

f'_{cr} = required average compressive strength of concrete, psi

s = standard deviation, psi

1.43 represents the Lower Quality Index necessary to assure that 93% of compressive strength tests are above f'_c .

907-804.02.10.1.2--Proportioning on the Basis of Laboratory Trial Mixtures. When an acceptable record of field test results is not available, concrete proportions shall be established based on laboratory trial mixtures meeting the following restrictions:

- a) The combination of materials shall be those intended for use in the proposed work.
- b) Trial mixtures having proportions and consistencies suitable for the proposed work shall be made using the ACI 211.1 as a guide to proportion the mix design.
- c) Trial mixtures shall be designed to produce a slump within $\pm 3/4$ in. of the maximum permitted, and for air-entrained concrete, 6.0 ± 0.5 percent total air content. The temperature of freshly mixed concrete in trial mixtures shall be reported.
- d) For each proposed mixture, at least three compressive test cylinders shall be made and cured in accordance with AASHTO Designation: T 126. Each change of water-cement ratio shall be considered a new mixture. The cylinders shall be tested for strength in accordance with AASHTO Designation: T 22 and shall meet the required 28 day strength.
- e) The required average strength of laboratory trial mixes shall exceed f'_c by 1200 psi for concrete mix designs less than 5000 psi and by 1400 psi for concrete mix designs of 5000 psi or more.
- f) The laboratory trial batch mixtures shall have been made within the previous 12 months before being submitted for approval and shall not have been previously used on Department projects.

907-804.02.10.2--Documentation of Average Strength. Documentation that the proposed concrete proportions will produce an average strength equal to or greater than the required average shall consist of the strength test records from field tests or results from laboratory trial mixtures.

907-804.02.10.3--Field Verification of Concrete Mix Design. Concrete mix designs will only be tentatively approved pending field verification. Mix designs may be transferred to other projects without additional field verification testing, once the mix design has passed the field verification process.

The Contractor's Certified Quality Control Technicians shall test each concrete mix design upon the first placement of the mix. Aggregates and concrete tests during the first placement shall be as follows:

<u>Aggregates</u>	<u>Concrete</u>
Bulk Specific Gravity	Water Content
Moisture	Slump
Gradation	Air Content
	Unit Weight
	Yield

The mix shall be verified to yield within 2.0% of the correct volume when all the mix water is added to the batch, producing a slump within a minus 1½ inches tolerance, or minus 2½ inches with Type F or G chemical admixture, of the maximum permitted and total air content within a minus 1½ percent tolerance of the maximum allowable air content listed in Table 3. The mix shall be adjusted and retested, if necessary, on subsequent placements until the above mentioned properties are met. If the requirements of yield, slump, or air are not met after three attempts, subsequent field verification testing shall not be permitted on Department projects, and the mix design shall not be used until the requirements listed above are met. Any mix design adjustments, changes in the mix proportions, are to be made by a Class III Certified Technician representing the Contractor. After the mix design has been verified and adjustments made, verification test results will be reviewed by the Engineer.

907-804.02.10.4--Adjustments of Mixtures Proportions. After ten compressive tests have been performed for which a standard deviation is calculated, the mix design may be adjusted provided the average strength (\bar{X}) complies with the inequality in Subsection 907-804.02.10.1.1 and the adjusted mix design satisfies the water/cementitious ratio requirement listed in Table 3. Any adjustments of the concrete mix design shall necessitate repeat of field verification procedure as described in Subsection 907-804.02.10.3 and approval by the Engineer.

907-804.03--Construction Requirements.

907-804.03.1--Measurement of Materials.

907-804.03.1.1--General. The accuracy for measuring materials shall be in accordance with AASHTO Designation: M 157.

907-804.03.1.2--Measurement by Weighing. Except when otherwise specified or authorized, materials shall be measured by weighing. The apparatus provided for weighing materials shall be suitably designed and constructed for this purpose. Cement and each size of aggregate shall be weighed separately. Cement in standard bags need not be weighed, but bulk cement shall be weighed. The mixing water shall be measured by volume or by weight. All measuring devices shall be subject to approval.

The batching plant and equipment shall conform to the requirements of Subsection 501.03.2.

907-804.03.1.3--Volumetric Measurement. When volumetric measurements are authorized by the Engineer for projects where the quantity of concrete is small, the weight proportions shall be converted to equivalent volumetric proportions. In such cases, suitable allowance shall be made for variations in the moisture condition of the aggregate, including the bulking effect in the fine aggregate.

When the aggregates contain more water than the quantity necessary to produce a saturated surface-dry condition, representative samples shall be taken and the moisture content determined for each kind of aggregate.

When bag cement is used, the quantities of aggregates for each batch shall be exactly sufficient for one or more full bags of cement, and no batch requiring fractional bags of cement will be permitted.

907-804.03.2--Mixing and Conveying Concrete.

907-804.03.2.1--General. Unless otherwise authorized, concrete shall be machine mixed.

When air-entraining or other admixtures are added at the mixer, the Contractor shall provide separate approved scales for each admixture to be proportioned by weight, and accurate measures for each admixture to be proportioned by volume. The quantities to be introduced will be approved by the Engineer.

Ready-mixed concrete shall be of the same design and meet the same requirements set out for concrete mixed at the site. Mixing and transporting shall be as set out in 907-804.03.3.

All equipment necessary for construction of the applicable component of a concrete structure shall be available when required, in first class working condition, and approved by the Engineer before construction of the component will be permitted to start.

907-804.03.2.2--Mixer Requirements. Except when hand-mixing is specifically authorized, all concrete shall be mixed in a mechanically operated batch mixer of approved size and type.

When concrete is to be mixed on the site or in a central mixing plant, all mixers, except one-bag capacity mixers, shall be equipped with an approved device for timing each batch, and preferably shall be equipped with an automatic locking device which will prevent the discharge of the mixer until the batch has been mixed the specified time. Each mixer shall have affixed to it a manufacturer's plate showing the rated capacity and mixing speed and shall have a regulator for controlling the mixing speed. Each mixer shall be equipped with a device to measure the water per batch within two percent, and it shall be so arranged that the accuracy of the measurements will not be affected by leakage or variations in pressure in the water supply line. Methods shall be provided for checking the accuracy of the measuring device by re-measuring the water in an independent calibrated tank. These appliances shall be in proper working condition at all times

when the mixer is in operation. Mixer drums shall be water-tight, and the blades in the drum shall not be less than 85 percent of their original size.

The mixing capacity required shall be as hereinafter specified, and shall be adequate to permit pouring and finishing of a unit during daylight hours. Should the operating condition of any equipment be questionable, the Engineer may require that an approved auxiliary unit be supplied on bridge projects.

Concrete Mixer Capacity

Continuous Pour Cu. Yds.	Minimum Capacity Bags
< 25	1
25 to < 50	2
50 to 75	3
> 75	4

No mixer having a rated capacity of less than one bag shall be used nor shall a mixer be charged in excess of its rated capacity.

907-804.03.2.3--Scales. Scales shall be provided for accurately weighing the aggregate, and shall be suitably designed and constructed for this purpose. Each size of aggregate shall be weighed separately, and scales shall be of sufficient capacity to weigh at least 1/2 the coarse aggregate required for one batch. Scales, including weighing hopper for bulk cement, shall conform to the requirements of 907-804.03.1.2.

907-804.03.2.4--Mixing. Concrete shall be mixed only in the quantity required for immediate use. Concrete which has developed initial set shall not be used. Concrete which has partially hardened shall not be retempered or remixed.

The first batch of materials placed in the mixer shall contain an excess of cement, sand, and water sufficient to coat the inside of the drum without reducing the required mortar content of the mix.

When completely mixed at the site of the work or in a central mixing plant, the mixing time shall be that which will provide a satisfactory homogeneous mixture and unless otherwise specified or authorized in writing by the Testing Engineer, the mixing time shall be not less than 50 seconds. When deemed necessary to insure a satisfactory mix, the Engineer may designate in writing a required mixing time. Four seconds shall be added to the specified mixing time if the timing starts the instant the skip reaches its raised position. Mixing time will end when the discharge chute opens. Transfer time in multiple drum mixers will be included in the mixing time. The batch shall be so charged into the mixer that some water will enter in advance of cement and aggregate, and all water shall be in the drum by the end of the first quarter of the specified mixing time.

The entire contents of an individual drum shall be emptied before materials for a succeeding batch are placed therein. Upon cessation of mixing for an extended period, the mixer shall be thoroughly cleaned.

907-804.03.2.5--Conveying Concrete. Ample and satisfactory equipment or means of conveying the concrete from the mixer to the forms shall be provided.

907-804.03.3--Ready-Mix Concrete.

907-804.03.3.1--General. Ready-mix concrete shall be understood to mean concrete manufactured for delivery to the site of the work in a plastic state and delivered as hereinafter specified.

Before ready-mix concrete may be used in the work or in the manufacture of products (except pipe and end sections) to be used in the work, the plant at which the concrete is to be proportioned and mixed and the units by which it is to be transported shall be approved by the Engineer in accordance with procedures determined by the Department. It shall be the Contractor's responsibility to make all parts of the plant and material storage facilities readily accessible to authorized Department personnel for inspection to determine such approval. The Contractor shall also provide for satisfactory quarters for the sole use of the Engineer's plant inspector in making tests during the work. No ready-mix concrete or products may be used on the work until the Engineer gives tentative approval of the facilities for proportioning and mixing and the units by which it is to be transported.

Except for concrete produced at a plant set up and used only on work under contract, no payment will be made for furnishing quarters for the use of the Department's plant inspector.

The Contractor shall provide and use a ticket system for recording the transporting of batches from the proportioning plant to the site of the work. Batch ticket information shall conform to AASHTO Designation: M 157 to include the listed "additional" information. Tickets for each load shall be issued to truck operators at the proportioning plant. Tickets shall be signed by the plant inspector to signify that the concrete in the truck has been inspected prior to departure. The tickets shall be delivered to the inspector on the site of the work. Loads not accompanied by tickets and those which do not arrive in satisfactory condition shall not be used in the work.

907-804.03.3.2--Definitions. For the purpose of these specifications the types of ready-mix concrete are defined as follows:

- A. **Central-Mixed Concrete** mixed completely in a stationary mixer and the mixed concrete transported to the destination.
- B. **Shrink-Mixed Concrete** mixed partially in a stationary mixer with mixing completed in a truck mixer and the mixed concrete transported to the destination.

- C. **Transit-Mixed or Truck Mixed Concrete** mixed completely in a truck mixer and transported to the destination.

907-804.03.3.3--Batching Plant and Equipment. The batching plant and equipment shall conform to the requirements of Subsection 501.03.2.

907-804.03.3.4--Handling, Measuring, Proportioning, and Batching of Materials. The handling, measuring, and batching of materials shall conform to the requirements of Subsection 501.03.10.

The proportioning of materials shall meet the requirements set forth in 907-804.02.7 for the particular class of concrete specified.

Wash water shall not be used as a portion of the mixing water for succeeding batches.

907-804.03.3.5--Mixing and Agitation.

907-804.03.3.5.1--General. Mixers may be either stationary mixers or truck mixers. Agitators may be either truck mixers or truck agitators.

Each mixer and agitator shall be examined daily for changes in condition such as accumulation of concrete or mortar, excessive wear, etc. which may impair its capability. When such condition develops, approval of the unit will be withdrawn until the condition is corrected.

Each stationary mixer, truck mixer, and truck agitator shall have attached in a prominent place a metal plate showing the manufacturer's rated capacity and the speeds for mixing and for agitating.

The maximum size of the batch, the mixing speed, and the agitating speed shall be those designated by the manufacturer of the equipment.

907-804.03.3.5.2--Stationary Mixers. Stationary mixers shall be equipped with an approved device for timing each batch and shall have a timing device which will not permit the batch to be discharged until the specified mixing time has elapsed. The mixer shall have a regulator to control the mixing speed. These appliances shall be in a proper working condition at all times when the mixer is in operation. Mixer drums shall be watertight, and the blades in the drum shall not be less than 85 percent of their designed size.

907-804.03.3.5.3--Truck Mixers and Truck Agitators. Truck mixers and agitators, unless otherwise authorized in writing by the Engineer, shall be of the revolving drum type and shall be watertight. Truck mixers shall be so constructed that the concrete can be mixed at the prescribed rate to insure a uniform distribution of the materials throughout the mass. Truck mixers and truck agitators shall be constructed so that the concrete can be agitated at the prescribed rate until delivered to the work. The mixing blades in the drum shall not be less than 85 percent of their designed size.

Except as subsequently provided, the truck mixer shall be equipped with a tank for carrying mixing water. Only the prescribed quantity of water shall be placed in the tank unless the tank is equipped with a device by which the quantity added can be readily verified. The prescribed quantity of water may be measured directly into the batch at the batching plant, in which case a tank will not be required on the truck. Truck mixers and truck agitators shall be equipped with approved automatic revolution counters which record either:

- A. Revolutions of the drums or blades when revolved at the mixing speed recommended by the manufacturer, or
- B. Revolutions of the drums or blades at any speed. In this case, the truck mixers shall remain at the batch plant until the required number of revolutions at mixing speed has been attained.

The counters shall be designed so as to prevent unauthorized resetting or tampering and located so as to provide safe and convenient inspection.

The capability of a truck mixer or truck agitator to produce or deliver uniformly mixed concrete shall be determined at the commencement of work and repeated as deemed necessary.

907-804.03.3.5.4--Non-Agitator Trucks. Bodies of non-agitating hauling equipment shall be smooth, watertight containers and shall be capable of discharging the concrete at a satisfactorily controlled rate without segregation. The unit shall be constructed so as to deliver the concrete to the work site in a thoroughly mixed and uniform mass and to discharge the concrete at or near the bottom of the container unless discharge is accomplished by tilting the body, in which case the surface of the load shall be retarded by a suitable baffle. Covers shall be provided when needed for protection.

907-804.03.3.5.5--Limits of Mixing and Agitating.

- (A) **Stationary Plants.** The mixing time shall be that which will provide a satisfactory homogeneous mixture. Unless otherwise specified in writing by the Testing Engineer, the mixing time shall be not less than 50 seconds at the manufacturer's designated mixing speed. When deemed necessary to insure a satisfactory mix, the Engineer may designate in writing a required mixing time. Four seconds shall be added to the specified mixing time if the timing starts the instant the skip reaches its maximum raised position. Mixing time will end when the discharge chute opens. Transfer time in multiple drum mixers will be included in the mixing time. The contents of an individual mixer drum shall be emptied before a succeeding batch is placed therein.
- (B) **Truck Mixers.** Each batch shall be mixed for not less than 70 nor more than 100 revolutions at the speed designated by the manufacturer. Additional mixing, if any, shall be at the speed designated by the manufacturer as agitating speed. All materials, including mixing water, shall be in the mixer drum before actuating or

documenting the revolution counter for determination of the number of revolutions of mixing. The mixing operation shall begin within 15 minutes after the cement has been added to the aggregate or prior to the truck leaving the batching plant, whichever occurs first.

When the prescribed water is added at the batching plant and it is found that the slump requirements at the delivery site are not met, the Engineer or his representative may authorize controlled small quantities of water to be added to the batch to increase the slump to the specified requirements, provided necessary additional mixing is performed and all of these operations are performed within 45 minutes after the initial mixing is begun. In such case the Engineer may authorize or require for subsequent batches that a minimum of 75 percent of the mixing water be introduced at the plant and the remaining water be added at the job site to reduce loss by evaporation and that additional mixing be performed to insure thorough incorporation of the added water into the mix. The additional mixing shall be as approved by the Engineer.

- (C) **Partial Mixing at the Central Plant.** When a truck mixer is used for transportation, the mixing time at the stationary mixer may be reduced to 30 seconds provided the mixing is completed in the truck mixer. The mixing in the truck mixer shall be 50 to 80 revolutions at mixing speed.
- (D) **Truck Agitators.** When a stationary mixer is used for complete mixing and truck agitators are used to transport the fully mixed concrete, the truck agitator shall be operated at the rate of rotation designated by the manufacturer from the time the mixed concrete is deposited into the agitator and until discharge at the site of the work.
- (E) **Time of Hauling and Placing Mixed Concrete.** Concrete transported in a truck mixer or truck agitator shall be placed in its final position in the forms within 1 1/2 hours after introduction of the mixing water to the cement and aggregate or the cement to the aggregate, whichever occurs first; except that in abnormal weather or under other conditions contributing to the quick stiffening or unusually slow stiffening of the concrete, the Engineer may make a determination of a lesser or greater time for placement considering all factors affecting initial set of the concrete. When mixed concrete is transported in approved non-agitating trucks, the concrete shall be discharged at the work site within 30 minutes after the introduction of the mixing water to the cement and aggregate.

The maximum volume of mixed concrete transported in any transportation device shall not exceed the manufacturers designated maximum operating capacity for the device.

907-804.03.4--Hand Mixing. When hand mixing is authorized, it shall be done on a watertight platform and in such a manner as to insure a uniform distribution of the materials throughout the mass. Mixing shall be continued until a homogeneous mixture of the required consistency is obtained.

907-804.03.5--Delivery. The plant supplying concrete shall have sufficient capacity and transporting apparatus to insure continuous delivery at the rate required. The rate of delivery shall be such as to provide for the proper continuity in handling, placing, and furnishing of the concrete. The rate shall be such that the interval between batches shall not exceed 20 minutes. The methods of delivering and handling the concrete shall be that which will facilitate placing with minimum rehandling and without damage to the structure or the concrete.

907-804.03.6--Handling and Placing Concrete.

907-804.03.6.1--General. Prior to placing concrete, all reinforcement shall have been accurately placed in the position shown on the plans and fastened as set out in Section 805. All sawdust, chips, and other construction debris and extraneous matter shall have been removed from the interior of the forms. Temporary struts, braces, and stays holding the forms in correct shape and alignment shall be removed when the concrete placing has reached an elevation rendering their service unnecessary. These temporary members shall be entirely removed from the forms and shall not be buried in the concrete.

All concrete shall be placed and finished during daylight hours unless otherwise specifically authorized by the Engineer. No concrete shall be placed until the forms and reinforcement have been inspected and approved.

Except as provided for truck mixers and truck agitators, concrete shall be placed in the forms within 30 minutes after the time that the cement is first added to the mix.

Concrete shall be placed so as to avoid segregation of materials and displacement of reinforcement. The use of troughs, chutes, and pipes over 25 feet in length for gravity conveyance of concrete to the forms, will not be permitted except when authorized by the Engineer and subject to the production of quality concrete.

Only approved mechanical conveyors will be permitted.

Open troughs and chutes shall be metal or metal lined. The use of aluminum pipes, chutes or other devices made of aluminum that come into direct contact with the concrete shall not be used. Where steep slopes are required, the chutes shall be equipped with baffles or be in short sections that change the direction of movement.

All chutes, troughs, and pipes shall be kept clean and free from coatings of hardened concrete by thoroughly flushing with water after each run. Water used for flushing shall be discharged clear of the structure.

When placing operations involve dropping the concrete more than five feet, it shall be deposited through sheet metal or other approved pipes to prevent segregation and unnecessary splashing. The pipes shall be made in sections to permit discharging and raising as the placement progresses. A non-jointed pipe may be used if sufficient openings of the proper size are provided

to allow for the flow of the concrete into the shaft. As far as practicable, the pipes shall be kept full of concrete during placing, and their ends shall be kept buried in the newly placed concrete.

Except as hereinafter provided, concrete shall be placed in horizontal layers not more than 12 inches thick. When, with the Engineer's approval, less than the complete length of a layer is placed in one operation, it shall be terminated in a vertical bulkhead. Each layer shall be placed and compacted before the preceding layer has taken its initial set and shall be compacted so as to avoid the formation of a construction joint with the preceding layer.

907-804.03.6.2--Consolidation. Concrete, during and immediately after depositing, shall be thoroughly consolidated by the use of approved mechanical vibrators and suitable spading tools. Hand spading alone will be permitted on small structural members such as railing and small culvert headwalls. Mechanical vibration of concrete shall be subject to the following:

- A. The vibration shall be internal unless special authorization of other methods is given by the Engineer or as provided herein.
- B. In general, vibrators shall be a type and design approved by the Engineer. They shall be capable of vibration frequencies of at least 4500 impulses per minute.

For lightweight concrete, the vibrator shall be an internal type operated at 10,000 rpm, unless otherwise approved by the Engineer. Excessive vibration will not be permitted.

- C. The intensity of vibration shall be such as to visibly affect a mass of concrete of one inch slump over a radius of at least 18 inches.
- D. The Contractor shall provide sufficient vibrators to properly compact each batch immediately after it is placed in the forms.
- E. Vibrators shall be manipulated so as to thoroughly work the concrete around the reinforcement and embedded fixtures and into the corners and angles of the forms.

Vibration shall be applied at the point of deposit and in the area of freshly deposited concrete. The vibrators shall be inserted into and withdrawn out of the concrete slowly. The vibration shall be of sufficient duration and intensity to thoroughly compact the concrete, but shall not be continued so as to cause segregation. Vibration shall not be continued at any one point to the extent that localized areas of grout are formed.

Application of vibrators shall be at points uniformly spaced and not farther apart than twice the radius over which the vibration is visibly effective.

- F. Vibration shall not be applied directly or through the reinforcement to sections or layers of concrete which have taken initial set. It shall not be used to make concrete

flow in the forms over distances so great as to cause segregation, and vibrators shall not be used to transport concrete in the forms.

- G. Vibration shall be supplemented by spading as necessary to insure smooth surfaces and dense concrete along form surfaces, in corners, and in locations impossible to reach with vibrators.
- H. These provisions shall apply to the filler concrete for steel grid floors except that the vibrator shall be applied to the steel.
- I. These provisions shall apply to precast piling, concrete cribbing, and other precast members except that, if approved by the Engineer, the manufacturer's methods of vibrations may be used.

When hand spading is used for consolidation, a sufficient number of workmen with spading tools shall be provided. They will be required to flush a thin layer of mortar to all the surfaces and thoroughly and satisfactorily consolidate the concrete.

The entire operation of depositing and consolidating the concrete shall be conducted so that the concrete shall be smooth and dense and free from honeycomb or pockets of segregated aggregate.

907-804.03.6.3--Discontinuance of Placing. When placing is temporarily discontinued, the concrete, after becoming firm enough to retain its form, shall be cleaned of laitance and other objectionable material to a sufficient depth to expose sound concrete. To avoid visible joints insofar as possible upon exposed faces, the top surface of the concrete adjacent to the forms shall be smoothed with a trowel. Where a "feather edge" might be produced at a construction joint, such as in the sloped top surface of a wing wall, an inset form work shall be used in the preceding layer to produce a blocked out portion that will provide an edge thickness of at least six inches in the succeeding layer. Work shall not be discontinued within 18 inches of the top of any face unless provision has been made for a coping less than 18 inches thick. In this case and if permitted by the Engineer, the construction joint may be made at the under side of the coping.

Immediately following the discontinuance of placing concrete, all accumulations of mortar splashed on the reinforcement and the surface of forms shall be removed. Dried mortar chips and dust shall not be puddled into the unset concrete. If the accumulations are not removed prior to the concrete becoming set, care shall be exercised not to break or injure the concrete-steel bond at and near the surface of the concrete while cleaning the reinforcement. After initial set the forms shall not be jarred, and no strain shall be placed on the ends of projecting reinforcement until the concrete has sufficiently set to insure against any damage by such jarring or strain.

907-804.03.6.4--Placing Bridge Concrete. The method and sequence of placing concrete shall conform to the provisions and requirements set forth for the particular type of construction.

907-804.03.6.4.1--Foundations and Substructures. Concrete seals shall be placed in accordance with 907-804.03.9. All other concrete for foundations shall be poured in the dry

unless otherwise stipulated or authorization is given in writing by the Engineer to do otherwise. Concrete shall not be placed in foundations until the foundation area has been inspected and approved.

Unless otherwise specified, the placement of concrete in the substructure shall be in accordance with the general requirements of 907-804.03.6.

Unless otherwise directed, concrete in columns shall be placed in one continuous operation, and shall be allowed to set at least 12 hours before the caps are placed.

907-804.03.6.4.2--Superstructure. For simple spans, concrete shall preferably be deposited by beginning at the center of the span and working toward the ends. For continuous spans, concrete shall be deposited as shown on the plans. Concrete in girders shall be uniformly deposited for the full length of the girder and brought up evenly in horizontal layers.

Unless otherwise permitted by the Engineer, concrete shall not be placed in the superstructure until the column forms have been stripped sufficiently to determine the character of the concrete in the columns. Unless otherwise permitted by the Engineer, the load of the superstructure shall not be placed on pile bents until the caps have been in place at least seven days and shall not be placed on other types of bents until the bents have been in place at least 14 days.

In placing concrete around steel shapes, it shall be placed on one side of the shape until it flushes up over the bottom flange of the shape on the opposite side, after which it shall be placed on both sides to completion.

Concrete in girder haunches less than three feet in height shall be placed at the same time as that in the girder stem. Whenever a haunch or fillet has a height of three feet or more at the abutment or columns, the haunch and the girder shall be poured in three successive stages: first, up to the lower side of the haunch; second, to the lower side of the girder; and third, to completion.

Except when intermediate construction joints are specified, concrete in slab, T-beam, or deck-girder spans shall be placed in one continuous operation for each span.

The floors and girders of through-girder superstructures shall be placed in one continuous operation unless otherwise specified, in which case special shear anchorage shall be provided to insure monolithic action between girder and floor.

Concrete in box girders shall be placed as shown on the plans.

Concrete shall not be chuted directly into the forms of the span and shall be placed continuously with sufficient speed to be monolithic and to allow for finishing before initial set.

907-804.03.7--Pneumatic Placing. Pneumatic placing of concrete will be permitted only if specified in the contract or if authorized by the Engineer. The equipment shall be so arranged that no vibrations result which might damage freshly placed concrete.

Where concrete is conveyed and placed by pneumatic means the equipment shall be suitable in kind and adequate in capacity for the work. The machine shall be located as close as practicable to the place of deposit. The position of the discharge end of the line shall not be more than 10 feet from the point of deposit. The discharge lines shall be horizontal or inclined upwards from the machine. At the conclusion of placement the entire equipment shall be thoroughly cleaned.

907-804.03.8--Pumping Concrete. Placement of concrete by pumping will be permitted only if specified in the contract or if authorized in writing by the Engineer. If used, the equipment shall be arranged so that no vibrations result which might damage freshly placed concrete.

Where concrete is conveyed and placed by mechanically applied pressure, the equipment shall be suitable in kind and adequate in capacity for the work. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. When pumping is completed, the concrete remaining in the pipe line, if it is to be used, shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients. After this operation, the entire equipment shall be thoroughly cleaned.

Concrete for slump and air content requirements shall be obtained at the discharge end of the pipe.

The use of aluminum pipe as a conveyance for the concrete will not be permitted.

907-804.03.9--Depositing Concrete Under Water. Concrete shall not be deposited in water except with the approval of the Engineer.

Concrete deposited under water shall be Class S.

Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie, a bottom dump bucket, or other approved method and shall not be disturbed after being deposited. Special care shall be exercised to maintain still water at the point of deposit. No concrete shall be placed in running water and all form work designed to retain concrete under water shall be water-tight. The consistency of the concrete shall be carefully regulated, and special care shall be exercised to prevent segregation of materials.

Concrete seals shall be placed continuously from start to finish, and the surface of the concrete shall be kept as nearly horizontal as practicable at all times. To insure thorough bonding, each succeeding layer of a seal shall be placed before the preceding layer has taken initial set.

When a tremie is used, it shall consist of a tube having a diameter of at least 10 inches and constructed in sections having flanged couplings fitted with gaskets. The means of supporting the tremie shall be such as to permit the free movement of the discharge over the entire top surface of the work and to permit it to be lowered rapidly when necessary to choke off or retard the flow of concrete. The discharge end shall be closed at the start of the work so as to prevent water entering the tube and shall be entirely sealed. The tremie tube shall be kept full to the bottom of

the hopper. When a batch is dumped into the hopper, the flow of concrete shall be induced by slightly raising the discharge end, always keeping it in the deposited concrete. The flow is then stopped by lowering the tremie. The flow shall be continuous until the work is completed.

Depositing of concrete by the drop bottom bucket method shall conform to the following: The top of the bucket shall be open. The bottom doors shall open freely downward and outward when tripped. The bucket shall be completely filled and slowly lowered to avoid backwash. It shall not be dumped until it rests on the surface upon which the concrete is to be deposited and when discharged shall be withdrawn slowly until well above the concrete.

Dewatering may proceed when the concrete seal is sufficiently hard and strong. As a general rule, this time will be 48 hours for concrete made with high-early-strength cement and three days for concrete made with other types of cement. All laitance and other unsatisfactory material shall be removed from the exposed surface by scraping, chipping, or other means which will not injure the surface of the concrete.

907-804.03.10--Construction Joints.

907-804.03.10.1--General. Unless otherwise approved by the Engineer, construction joints shall be made only where located on the plans or shown in the pouring schedule.

In the event the Contractor plans to deviate from the pouring schedule for spans as shown on the plans he shall submit his proposed pouring schedule to the Bridge Engineer for approval prior to commencing the pour.

If not detailed on the plans, or in the case of emergency, construction joints shall be placed as directed by the Engineer. Shear keys or inclined reinforcement shall be used where necessary to transmit shear or to bond the two sections together.

907-804.03.10.2--Bonding. Before depositing new concrete on or against concrete which has hardened, the forms shall be retightened. The surface of the hardened concrete shall be roughened as required by the Engineer and in a manner that will not leave loosened particles of aggregate or damaged concrete at the surface. It shall be thoroughly cleaned of foreign matter and laitance and saturated with water. When directed by the Engineer, the cleaned and saturated surfaces, including vertical and inclined surfaces, shall first be thoroughly covered with a coating of mortar or neat cement grout against which the new concrete shall be placed before the grout has attained its initial set.

The placing of concrete shall be carried continuously from joint to joint. The face edges of all joints which are exposed to view shall be carefully finished, true to line and elevation.

In order to bond successive courses suitable depressed or raised keys of the designated size shall be constructed. Raised keys shall be monolithic with the concrete of the lower course.

907-804.03.11--Concrete Exposed to Sea Water. Unless otherwise specifically provided, concrete for structures exposed to sea water shall be Class AA concrete (Reference 907-804.02.7). The clear distance from the face of the concrete to the nearest face of reinforcing steel shall be at least four inches. The mixing time and the water content shall be carefully controlled and regulated so as to produce concrete of maximum impermeability. The concrete shall be thoroughly compacted, and stone pockets shall be avoided. No construction joints shall be formed between the levels of extreme low water and extreme high water as determined by the Engineer. Between these levels sea water shall not come in direct contact with the new concrete until at least 30 days have elapsed. The surface concrete as left by the forms shall be left undisturbed.

907-804.03.12--Blank.

907-804.03.13--Falsework. The Contractor shall submit to the Engineer four copies of structural design analysis and detail drawings which show the method of falsework or centering. These designs and detail plans shall be prepared and bear the seal of a Registered Professional Engineer with experience in falsework design.

Falsework plans shall include falsework elevations together with all other dimensions and details which is considered necessary for the construction.

Other pertinent data needed is size and spacing of all falsework members and minimum bearing requirements for false piles.

Upon completion of falsework erection, the Registered Professional Engineer shall certify that the erected falsework is capable of supporting the load for construction.

Falsework piling shall be spaced and driven so that the bearing value of each pile is sufficient to support the load that will be imposed upon it. The bearing value of the piles should be calculated according to the appropriate formula given in Section 803.

For designing falsework and centering, a weight of 150 pounds per cubic foot shall be assumed for green concrete. All falsework shall be designed and constructed to provide the necessary rigidity and to support the loads without appreciable settlement or deformation. The Contractor may be required to employ screw jacks or hardwood wedges to take up slight settlement in the falsework either before or during the placing of concrete. An allowance shall be made for anticipated compressibility of falsework and for the placement of shims, wedges, or jacks to produce the permanent structural camber shown on the plans. If during construction, any weakness develops and the falsework shows any undue settlement or distortion, the work shall be stopped, the part of the structure affected removed, and the falsework strengthened before work is resumed. Falsework which cannot be founded on a satisfactory footing shall be supported on piling, which shall be spaced, driven, and removed (reference 907-804.03.15) in a manner approved by the Engineer.

All structures built across a public street or highway on which maintenance of traffic is required, shall have falsework so arranged that a vertical clearance of at least 12'-6", and unless otherwise specified, a horizontal clearance of at least the width of the travelled way shall be provided at all times. If the vertical clearance is less than 13'-6" or the horizontal clearance is less than the full crown width of the roadway, the Contractor shall install and maintain appropriate safety devices, clearance signs and warning lights, and shall notify the Engineer sufficiently in advance of restricting the clearance for him to advise both the Traffic Control and Safety and the Maintenance Divisions.

907-804.03.14 Forms.

907-804.03.14.1--General. Forms shall be wood, metal, or other material approved by the Engineer. All forms shall be built mortar-tight and sufficiently rigid to prevent distortion due to pressure of the concrete and other loads incident to the construction operations. Forms shall be constructed and maintained so as to prevent warping and the opening of joints due to shrinkage. The forms shall be substantial and unyielding and shall be so designed that the finished concrete will conform to the proper dimensions and contours. The design of the forms shall take into account the effect of vibration of concrete as it is placed.

Minimum requirements for slab overhang forms shall be 3/4-inch plywood supported on 2" x 6" S4S wood timbers placed flatwise on 16-inch centers.

Adjustable brackets for support of slab overhang forms shall be spaced at a maximum distance of 3'-0" center to center unless specifically approved otherwise. Grade points for forms shall coincide with the location of the adjustable form brackets.

Forms for surfaces exposed to view shall be of uniform thickness with a smooth inside surface of an approved type. Joints in forms for exposed surfaces shall be closely fitted to eliminate fins, stone pockets, or other variations in the surface of the concrete which would mar a smooth and uniform texture.

Forms shall be filleted at all sharp corners and shall be given a bevel or draft in the case of all projections, such as girders and copings, to insure easy removal.

Metal ties or anchorages within the forms shall be so constructed as to permit their removal, without injury to the concrete, to a depth of at least the reinforcing steel clearance shown on the plans. In case ordinary wire ties are permitted, all wires, upon removal of the forms, shall be cut back at least 1/4 inch from the face of the concrete with chisels or nippers. Nippers shall be used for green concrete. All fittings for metal ties shall be designed so that upon their removal the cavities which are left will be the smallest practicable size. The cavities shall be filled with cement mortar and the surface left sound, smooth, even, and uniform in color.

Forms shall be set and maintained to the lines designated until the concrete is sufficiently cured for form removal. Forms shall remain in place for periods which shall be determined as hereinafter specified. If forms are deemed to be unsatisfactory in any way, either before or

during the placing of concrete, the Engineer will order the work stopped until the defects have been corrected.

The shape, strength, rigidity, water-tightness, and surface smoothness of reused forms shall be maintained at all times. Warped or bulged lumber shall be resized before being reused. Forms which are unsatisfactory in any respect shall not be reused.

Access to the lower portions of forms for narrow walls and columns shall be provided for cleaning out extraneous material immediately before placing the concrete.

All forms shall be treated with an approved oil or saturated with water immediately before placing the concrete. For rail members or other members with exposed faces, the forms shall be treated only with an approved oil to prevent the adherence of concrete. Any material which will adhere to or discolor the concrete shall not be used.

When metal forms are used they shall be kept free from rust, grease, or other foreign matter which will discolor the concrete. They shall be of sufficient thickness and so connected that they will remain true to shape and line, and shall conform in all respects as herein prescribed for mortar tightness, filleted corners, beveled projections, etc. They shall be constructed so as to insure easy removal without injury to concrete. All inside bolt and rivet heads shall be countersunk.

All chamfer strips shall be dressed, straight, and of uniform width and shall be maintained as such at all times.

907-804.03.14.2--Stay-In-Place Metal Forms.

907-804.03.14.2.1--General. Permanent stay-in-place metal forms will be considered only for hydraulic and relief structures subject to the conditions contained herein.

The additional deadload resulting from the use of these forms shall not be sufficient to require redesign of supporting components.

Additional slab thickness to accommodate the use of stay-in-place forms shall be the responsibility of the Contractor and subject to approval. Pay quantities for slab will be computed from the design dimensions shown on the plans with no allowance for changes in deflection and changes in dimensions necessary to accommodate the stay-in-place forms.

Prior to using stay-in-place forms the Contractor shall submit for approval detailed plans of the forming system together with design calculations showing conformance with these specifications. Stay-in-place forms shall not be used until the forming system and all necessary design revisions have been approved by the Bridge Engineer. The Department in no way assumes responsibility for the performance of the stay-in-place forms by approval of their use.

907-804.03.14.2.2--Materials. Permanent steel bridge deck forms and supports shall be fabricated from steel conforming to ASTM Designation: A 446 (Grades A through E) having a coating class of G 165 according at ASTM Designation: A 525.

907-804.03.14.2.3--Design. The following criteria shall govern the design of permanent bridge deck forms:

- A. The forms shall be designed on the basis of deadload of form, reinforcement and plastic concrete plus 50 pounds per square foot for construction loads. The unit working stress in the steel sheet shall be not more than 0.725 of the specified minimum yield strength of the material furnished, but not to exceed 36,000 pounds per square inch.
- B. Deflection under the weight of the forms, the plastic concrete and reinforcement shall not exceed 1/180 of the form span or 1/2 inch whichever is less, but in no case shall this loading be less than 120 PSF total. The permissible form camber shall be based on the actual deadload condition. Camber shall not be used to compensate for deflection in excess of the foregoing limits.
- C. The design span of the form shall be the clear span of the form plus two inches. The span of steel forms shall be measured parallel to the form flutes.
- D. Physical design properties of steel forms shall be computed in accordance with requirements of the American Iron and Steel Institute Specifications for the Design of Cold Formed Steel Structural Members, latest published edition.
- E. All reinforcement shall have a minimum concrete cover required by the plans.
- F. The plan dimensions of both layers of primary deck reinforcement from the top surface of the concrete deck shall be maintained. The minimum cover of the bottom mat of steel shall be measured normal to the steel mat to the top of steel form flutes.
- G. The permanent bridge deck form shall not be considered as lateral bracing for compression flanges of supporting structural members.
- H. Permanent steel bridge deck forms shall not be used in panels where longitudinal deck construction joints are located between stringers.
- I. Forms shall be secured to the supporting members by means other than welding.

907-804.03.14.2.4--Construction. All forms shall be installed in accordance with approved fabrication and erection plans.

Steel form sheets shall not be permitted to rest directly on the top of the stringer or floor beams flanges. Sheets shall be securely fastened to form supports and shall have a minimum bearing length of one inch at each end for steel forms. Steel form supports shall be placed in direct

contact with the flange of stringer or floor beam. All attachments for steel forms shall be made by bolts, clips, or other approved means.

Any permanent exposed metal where the galvanized coating has been damaged shall be thoroughly cleaned, wire brushed and painted to the satisfaction of the Engineer using two coats of an inorganic zinc rich primer meeting the requirements of Subsection 710.03.1. Minor heat discoloration in areas of welds need not be touched up.

907-804.03.14.2.5--Placing of Concrete. Concrete shall be placed in accordance with the specifications. Particular emphasis shall be placed on proper vibration of the concrete to avoid honeycomb and voids, especially at construction joints, expansions joints, and valleys and ends of form sheets. Pouring sequences, procedures and mixes used by the Contractor shall be as approved.

907-804.03.14.2.6--Inspection. The Contractor's method of construction will be carefully observed during all phases of the construction of the bridge deck slab. Should the Engineer determine that the procedures used during the placement of the concrete warrant inspection of the underside of the deck, the Contractor shall remove at least one section of the forms in each span of the contract at selected location and time. This shall be done as soon after placing the concrete as practicable in order to provide visual evidence that the concrete mix and the Contractor's procedures are obtaining the desired results. An additional section in any span shall be removed if it is determined that there has been any change in the concrete mix.

After the deck concrete has been in place for a minimum period of two days, the Contractor shall test for soundness and bonding of the forms by sounding with a hammer as directed. If areas of doubtful soundness are disclosed by this procedure, the Contractor will be required to remove the forms from such areas for visual inspection after the concrete has attained adequate strength. This removal of the permanent bridge deck forms shall be at no cost to the Department.

At locations where sections of the forms are removed, the Contractor will not be required to replace the forms, but the adjacent forms and supports shall be repaired to present a neat appearance and assure their satisfactory retention. As soon as the form is removed, the concrete surfaces will be examined for cavities, honeycombing, and other defects. If irregularities are found, and it is determined that these irregularities do not justify rejection of the work, the concrete shall be repaired as directed and shall be given a Class 1 Finish in accordance with the specifications. If the concrete where the form is removed is unsatisfactory, additional forms, as necessary, shall be removed to inspect and repair the slab, and the Contractor's method of construction shall be modified as required to obtain satisfactory concrete in the slab. All unsatisfactory concrete shall be removed and replaced by the Contractor as directed.

The amount of sounding and form removal may be moderated, when approved, after substantial amount of slab has been constructed and inspected, if the Contractor's method of construction and the results of the inspections as outlined above indicate that sound concrete is being obtained throughout the slabs.

The Contractor shall provide the facilities as are reasonably required for the safe and convenient conduct of the inspection procedures.

All costs of inspection and repair shall be borne by the Contractor and no reimbursement of costs incurred will be made.

907-804.03.15--Removal of Falsework, Forms, and Housing. In the determination of the time for the removal of falsework, forms, and housing and the discontinuance of heating, consideration shall be given to the location and character of the structure, the weather and other conditions influencing the setting of the concrete, and the materials used in the mix. No forms or supports shall be removed prior to approval by the Engineer. During cold weather, removal of housing and the discontinuance of heating shall be in accordance with 907-804.03.16.1.

Concrete in the last pour of a continuous superstructure shall have attained a compressive strength of 2,400 psi, as determined by cylinder tests, prior to striking any falsework. It is important that falsework be removed as evenly as possible to prevent excessive deflection stresses in the spans.

At the Contractor's option and with the approval of the Engineer, the time for removal of forms may be determined by cylinder tests, in which case the Contractor shall furnish facilities for testing the cylinders. The facilities shall include an approved concrete testing machine of sufficient capacity and calibrated by an acceptable commercial laboratory. Tests shall be conducted in the presence of a Department representative to witness and record strengths obtained on each break or performed by a Department certified technician in an approved testing laboratory.

When form removal or placing of beams is not controlled by cylinder tests, Column A (exclusive of the days when the ambient temperature is below 40°F) herein shall apply as a guide for removal of forms and falsework. When cylinder tests are used, Column B shall be used. The cylinders shall be cured under conditions which are not more favorable than those existing for the portions of the structure which they represent.

If Type IP cement or Type I or II portland cement plus fly ash is used, only Column B will be applicable.

	Column A (Minimum Cure)	Column B (Minimum psi)
Forms:		
Columns	24 Hours	1000
Side of Beams	24 Hours	1000
Walls (not under pressure)	24 Hours	1000
Floor Slabs (overhead)	7 Days	2000
Floor Slabs (between beams)	7 Days	2000
Slab Spans	14 Days	2400
Other Parts	24 Hours	1000

Centering:

Under Beams	14 Days	2400
Under Bent Caps	7 Days	2000

Limitation for Placing Beams on:

Pile Bents (pile under beam)	3 Days	2000
Frame Bents (two or more columns)	7 Days	2200
Frame Bents (single column)	14 Days	2400

Methods of form removal likely to cause overstressing of the concrete shall not be used. Forms and supports shall be removed in a manner that will permit the concrete to uniformly and gradually take the stresses due to its own weight. Centers shall be gradually and uniformly lowered in a manner that will avoid injurious stresses in any part of the structure.

As soon as concrete for railings, ornamental work, parapets and vertical faces which require a rubbed finish has attained a safe strength, the forms shall be carefully removed without marring the surfaces and corners, the required finishing performed, and the required curing continued.

Prior to final inspection of the work, the Contractor shall remove all falsework, forms, excavated material or other material placed in the stream channel during construction. Falsework piles may be cut or broken off at least one foot below the mudline or ground line unless the plans specifically indicate that they are to be pulled and completely removed from the channel.

907-804.03.16--Cold or Hot Weather Concreting.

907-804.03.16.1--Cold Weather Concreting. No portland cement concrete, mortar, or grout shall be placed when the atmospheric temperature is below 35°F without written permission of the Engineer. When the Contractor proposes to place concrete during seasons when there is a probability of temperatures lower than 40°F, he shall have available on the project the approved facilities necessary to enclose uncured concrete and to keep the temperature of the air inside the enclosure within the ranges and for the minimum periods specified herein.

When there are indications of temperatures of less than 40°F during the first four days after placement of the concrete, the Engineer may not permit placement or he may stipulate conditions under which the concrete may be placed and protected. Concrete required to be protected from cold temperatures will be required to be maintained between 50°F and 100°F for at least four days after placement and between 40°F and 100°F for at least three additional days.

When directed by the Engineer, the Contractor shall use such heating equipment such as stoves, salamanders, or steam equipment as deemed necessary to protect the concrete. When dry heat is used, means of maintaining atmospheric moisture shall be provided. When directed by the

Engineer, one or more of the aggregates and/or mixing water shall be heated to a temperature of at least 70°F but not more than 150°F at the time of mixing. The aggregates may be heated by steam or dry heat or by placing in the mixing water which has been heated to a temperature of not more than 175°F provided the resulting temperature of the aggregates and mixing water is at least 70°F and not more than 150°F. Frozen aggregates shall not be placed in the mixing water. The temperature of the concrete shall be at least 60°F and not more than 80°F at the time of placing. In case of extremely cold temperatures, the Engineer may raise the minimum temperatures for the water, aggregates, and mixed concrete. When either aggregates or water are heated above 100°F, the aggregates and water shall be combined first in the mixer before the cement is added to avoid flash set.

The use of salt or other chemical admixtures in lieu of heating will not be permitted.

Before placing concrete, all ice or frost shall be removed from the forms and reinforcement.

In the case of concrete placed directly on or in the ground, such as for footings or bottom slabs, protection and curing during cold weather may be provided as set for concrete pavement under Subsection 501.03.20.3.

The Contractor shall assume all risk and added cost connected with the placing and protecting of concrete during cold weather. Permission given by the Engineer to place concrete during such time will in no way relieve the Contractor of responsibility for satisfactory results. Should it be determined at any time that the concrete placed under such conditions is unsatisfactory, it shall be removed and replaced with satisfactory concrete by the Contractor without extra compensation.

907-804.03.16.2--Hot Weather Concreting. The manufacture, placement, and protection of concrete during hot weather requires special attention to insure that uniform slump ranges and satisfactory placement qualities are maintained, that surface cracking is held to a minimum, and that design strengths are produced.

When the atmospheric temperature is 95°F or above, the Contractor shall use such controls as are deemed by the Engineer to be necessary to produce and place concrete in as cool and uniform condition as practicable to safeguard against improper placement characteristics or temporary or permanent damage. The Engineer may require any or all, but not limited to, the following precautions depending upon his determination as to the severity of the hot or arid conditions with respect to the work being performed.

- A. Provide or require an adequate sprinkling system and sprinkle coarse aggregate stockpiles as necessary to keep the aggregates in a saturated condition in order to minimize variation of absorption of mixing water and to cool the aggregates by evaporation.
- B. Protect mixing water lines from the sun by adequate covering.

- C. Paint transporting containers with light colored, heat-reflective paints, or cool the surfaces of these containers by water spraying, fogging, or other effective methods.
- D. Provide for proper spacing of trucks delivering fresh concrete to the project site so that the concrete will be placed in the work after only the minimum necessary elapsed time.
- E. Fog spray with water the forms and foundations to receive the green concrete in order to reduce absorption and to cool by evaporation.
- F. Fog spray with water or otherwise protect from excessive temperatures reinforcing steel and structural steel against which fresh concrete is to be placed.
- G. Apply water spray to membrane curing surfaces after the curing compound has set in order to maintain lower daytime temperatures in the concrete.

In order to minimize the number and extent of precautions required for hot weather concreting, the Contractor may use approved chemical admixtures for set-retarding purposes. However, the use of set-retarding admixtures will not relieve the Contractor of the necessity of taking other precautions deemed necessary to protect the green concrete.

Unless otherwise specified, additives or admixtures shall be used only with the authority of the Testing Engineer and subject to the conditions set forth in such authority.

Unless otherwise provided in the contract, the furnishing and use of additives or admixtures and the other precautions necessary to provide satisfactory concrete shall be considered subsidiary to the furnishing and placement of the concrete, and all additional costs related thereto and risks resulting therefrom shall be borne by the Contractor.

907-804.03.17--Curing Concrete. Concrete surfaces shall be protected from premature drying by covering as soon as possible with a satisfactory curing material. When wetted burlap is used, it shall be not less than two thicknesses of Class 3 burlap or its equivalent, and the burlap shall be kept continuously and thoroughly wet. Careful attention shall be given to the proper curing and protection of concrete, and curing by the wetting method shall continue for a period of at least seven days after placing the concrete. If high-early-strength cement is used, this period may be reduced to four days.

Surfaces to have a Class 2 rubbed or sprayed finish and bridge deck surfaces when the atmospheric temperature is 90°F or above shall be cured only by wetting methods. The curing of concrete bridges with membrane curing will be permitted only under the conditions specified herein.

Surfaces on which curing is to be by liquid membrane shall be given the required surface finish prior to the application of curing compound. During the finishing period the concrete shall be protected by the water method of curing. Concrete surfaces cured by the liquid membrane method shall receive two applications of curing compound. The first application shall be applied

immediately after the finishing is completed and accepted. Prior to applying the first application, the concrete shall be thoroughly wetted with water and the liquid membrane applied just as the surface film of water disappears. The second application shall be applied immediately after the first application has set. The rate of application of curing compound will be as prescribed by the Engineer with a minimum spreading rate per application of one gallon per 200 square feet of concrete surface. The coating shall be protected against marring for at least 10 days after the application of the curing compound. The coating on bridge decks shall receive extra attention and may require additional protection as required by the Engineer. All membrane marred or otherwise disturbed shall be given an additional coating. Should the surface coating be subjected repeatedly to injury, the Engineer may require that the water curing method be applied at once.

When using curing compound, the compound should be thoroughly mixed within an hour before use. If the use of curing compound results in a streaked or blotched appearance, the method shall be stopped and water curing applied until the cause of defective appearance is corrected.

Other precautions to insure the development of strength shall be taken as directed.

Adequate tarpaulins of ample size shall be on the project and used as necessary to protect the work in case of rain or other emergencies.

Conditions governing the placement of concrete and the requirements for the placement, protection, and curing of concrete during cold or hot weather shall conform to the limitations, conditions, and requirements stipulated in 907-804.03.16 as applicable.

907-804.03.18--Expansion and Fixed Joints, Bearings, Anchor Bolts, Plates, Castings, Pipes, Drains, Conduits, Etc. All joints shall be constructed according to details shown on the plans. The edges of the concrete at open or filled joints shall be chamfered or edged as indicated on the plans.

907-804.03.18.1--Open Joints. Open joints shall be placed in the locations shown on the plans and shall be constructed by the insertion and subsequent removal of a wood strip, metal plate, or other approved material. The insertion and removal of the template shall be accomplished without chipping or breaking the corners of the concrete. Reinforcement shall not extend across an open joint unless so specified on the plans.

907-804.03.18.2--Filled Joints. Poured expansion joints and joints to be sealed with premolded materials shall be constructed similar to open joints. When premolded types are specified, the filler shall be placed in correct position as the concrete on one side of the joint is placed. When the form is removed, the concrete on the other side shall be placed. Adequate water stops of metal, rubber, or plastic shall be carefully placed as shown on the plans.

907-804.03.18.3--Premolded and Preformed Joint Seals. When preformed elastomeric compressive joint seals are specified, the previously formed and cured open joint shall be thoroughly cleaned of all foreign matter, the required adhesive uniformly applied, and the seal installed in accordance with the recommendations of the manufacturer of the seal.

When premolded filler is used for the joints in the roadway slab, the tops shall be adequately sealed with poured joint filler in accordance with details on the plans. Premolded filler shall be permanently fastened to an adjacent concrete surface by appropriate use of copper wire, copper nails, or galvanized nails.

907-804.03.18.4--Steel Joints. The plates, angles, or other structural shapes shall be accurately shaped at the shop to conform to the section of the concrete floor. Fabrication and painting shall conform to the specifications covering those items. When called for on the plans or in the special provisions, the material shall be galvanized in lieu of painting. Care shall be taken to insure that the surface in the finished plane is true and free of warping. Positive methods shall be employed in placing the joints to keep them in correct position during the placing of the concrete. The opening at expansion joints shall be that designated on the plans at normal temperature, and care shall be taken to avoid impairment of the clearance in any manner.

907-804.03.18.5--Water Stops. Adequate water stops of metal, rubber, or plastic shall be placed as shown on the plans. Where movement at the joint is provided for, the water stops shall be of a type permitting movement without injury. They shall be spliced, welded, or soldered to form continuous water-tight joints.

907-804.03.18.6--Bearing Devices. Bearing plates, rockers, and other bearing devices shall be constructed according to details shown on the plans. Unless otherwise specified or set in plastic concrete, they shall be set in grout to insure uniform bearing. Structural steel and painting shall conform to the requirements of Section 810 and 814. When specified, the material shall be galvanized in lieu of painting. The rockers or other expansion bearing devices shall be set, considering the temperature at the time of erection, so that the required position of the device is provided.

At all points of bearing contact, concrete members shall be separated from underlying members by dimensioned bearing pads or by methods and/or materials specified on the plans.

When not otherwise specifically provided, contact areas between concrete super-structures and substructures shall be separated by three layers of 15-pound roofing felt.

907-804.03.18.7--Friction Joints. Metal friction joints shall consist of plates as indicated on the plans and shall be securely anchored in correct position. All sliding surfaces shall be thoroughly coated with an approved graphite grease. Movement shall not be impeded by the concrete in which the plates are embedded.

907-804.03.18.8--Placing Anchor Bolts, Plates, Castings, Grillage, Conduits, Etc. All anchor bolts, plates, castings, grillage, conduits, etc. indicated on the plans to be placed in or on the concrete shall be placed, set, or embedded as indicated or as directed. These items of the construction shall be set in portland cement mortar (Subsection 714.11.5) except that anchor bolts may, as permitted by the Engineer, be built into the masonry, set in drilled holes, or placed as the concrete is being constructed by inserting encasing pipe or oiled wooden forms of

sufficient size to allow for adjustment of the bolts. After removal of the pipe or forms, the space around the bolts shall be filled with portland cement mortar (Subsection 714.11.5) completely filling the holes. The bolt shall be set accurately and perpendicular to the plane of the seat.

Anchor bolts which are to be set in the masonry prior to the erection of the superstructure shall be carefully set to proper location and elevation with a template or by other suitable means.

When bed plates are set in mortar, no superstructure or other load shall be placed thereon until this mortar has been allowed to set for a period of at least 96 hours (subject to the restrictions for cold weather concreting in 907-804.03.16.1). The mortar shall be kept well moistened during this period.

Weep hole drains shall be installed in abutments and retaining walls, and roadway drains or scuppers shall be installed in the roadway slabs in accordance with the details shown on the plans.

Where backfill is to be made at weep holes or openings in the structure, sand or stone chimneys or French drains shall be constructed as specified and shall extend through the portion of the backfill to be drained. Except as otherwise provided, the sand, stone, or slag used in this construction shall meet the requirements of Subsection 704.04.

907-804.03.19--Finishing Concrete Surfaces.

907-804.03.19.1--Classes of Finishes. Surface finishes of exposed concrete surfaces shall be classified as follows:

- Class 1 - Ordinary Surface Finish
- Class 2 - Rubbed or spray Finish
- Class 3 - Tooled Finish
- Class 4 - Sand-Blast Finish
- Class 5 - Wirebrush or Scrubbed Finish
- Class 6 - Floated Surface Finish

907-804.03.19.2--Class 1, Ordinary Surface Finish. Immediately following the removal of forms, all fins and irregular projections shall be removed from all surfaces except from those which are not to be exposed or not to be waterproofed. On all surfaces, the cavities produced by form ties and all other holes, honeycomb spots, broken corners or edges, and other defects shall be thoroughly cleaned, and after having been kept saturated with water for at least three hours shall be carefully pointed and trued with a mortar of cement and fine aggregate mixed in the proportions used in the class of the concrete being finished. Mortar used in pointing shall be not more than one hour old. The mortar patches shall be cured as specified under 907-804.03.17. All construction and expansion joints shall be left carefully tooled and free of mortar and concrete. The joint filler shall be left exposed for its full length with clean and true edges.

The resulting surfaces shall be true and uniform. All surfaces which cannot be repaired to the satisfaction of the Engineer shall be given a Class 2 rubbed finish.

907-804.03.19.3--Class 2, Rubbed or Spray Finish.

907-804.03.19.3.1--Rubbed Finish. After removal of forms, the Class 1 finish shall be completed and the rubbing of concrete shall be started as soon as its condition will permit. Immediately before starting this work, the concrete shall be kept thoroughly saturated with water for at least three hours. Surfaces shall be rubbed with a medium course Carborundum stone using a small amount of mortar on its face. The mortar shall be composed of cement and sand mixed in the proportions used in the concrete being finished. Rubbing shall be continued until all form marks, projections, and irregularities have been removed, all voids are filled, and a uniform surface has been obtained. The paste produced by this rubbing shall be left in place at this time.

After all concrete above the surface being treated has been cast, the final finish shall be obtained by rubbing with a fine carborundum stone and water. This rubbing shall continue until the entire surface is of a smooth texture and uniform color.

After the final rubbing is completed and the surface has dried, it shall be rubbed with burlap to remove loose powder and objectionable marks.

907-804.03.19.3.2--Spray Finish. Prior to the spray finish, the concrete shall be given a Class 1 finish in accordance with 907-804.03.19.2, supplemented if necessary with a grout meeting the requirements of Subsection 714.11 with fine aggregate modified to require 100 percent passing the No. 16 Sieve.

Grout shall be applied with burlap pads or float sponges, and as soon as the grout has dried the surface shall be brushed to remove all loose grout and the surface left smooth and free of air holes. Surfaces to be sprayed shall be free of efflorescence, flaking coatings, dirt, oil, and other foreign substances. Prior to application of the spray finish, the surfaces shall be free of moisture, as determined by sight and touch, and in a condition consistent with the manufacturer's published recommendations.

The spray finish shall be applied with heavy duty spray equipment capable of maintaining a constant pressure as necessary for proper application. The material shall be applied as recommended by the manufacturer except the rate of application shall not be less than one gallon per 50 square feet of surface area without prior written approval of the Engineer.

The completed finish shall be tightly bonded to the structure and present a uniform appearance and texture equal to or better than a rubbed finish. If necessary, additional coats shall be sprayed to produce the desired surface texture and uniformity. Upon failure to adhere positively to the structure without chipping or cracking or to attain the desired surface appearance, the coatings shall be completely removed and the surface given a rubbed finish in accordance with 907-

804.03.19.3.1, or other approved methods shall be used to obtain the desired surface finish to the satisfaction of the Engineer without additional cost to the State.

907-804.03.19.4--Classes 3, 4, and 5 Finishes. If required, specifications for these finishes will be contained in the special provisions.

907-804.03.19.5--Class 6, Floated Surface Finish. After the concrete has been deposited in place, it shall be consolidated and the surface shall be struck off by means of a strike board and floated with a wooden or cork float. An edging tool shall be used on edges and expansion joints. The surface shall not vary more than 1/8 inch under a 10-foot straightedge. The surface shall have a granular or matte texture which will not be slick when wet.

907-804.03.19.6--Required Finishes for Various Surfaces.

907-804.03.19.6.1--General. Unless otherwise specified, the top surface of sidewalks, the top horizontal surfaces of footings, and top slabs of box bridges, box culverts, or other structures shall be given a Class 6 finish. All formed concrete surfaces shall be given a Class 1 finish, except on surfaces which are completely enclosed, such as the inside surfaces of cells of box girders, the removal of fins and form marks and the rubbing of mortared surfaces to a uniform color will not be required.

In reference to finishing, exposed surfaces are surfaces or faces which may be seen after all backfill has been placed. Exposed surfaces requiring a Class 2 finish shall be finished at least one foot below the ground line or the low water elevation, whichever is higher.

The Class 2 finish shall be made upon a Class 1 finish. After the removal of forms the Class 1 finish shall be completed and the rubbing of concrete shall be started as soon as the condition of the concrete will permit.

Bridge floors shall be finished in accordance with 907-804.03.19.7.

907-804.03.19.6.2--Finishing Formed Concrete Surfaces of Box Bridges, Box Culverts, Pipe Headwalls, and Minor Structures. The exposed surfaces of wing walls and parapets of box bridges and box culverts to be used as vehicular or pedestrian underpasses shall be given a Class 2 finish. Exposed surfaces of other box culverts or box bridges, pipe culvert headwalls, and other minor structures shall be given a Class 1 finish unless otherwise indicated on the plans.

The exposed surfaces of retaining walls including copings and parapets shall receive a Class 2 finish.

907-804.03.19.6.3--Finishing Formed Concrete Surface of Bridges. All formed concrete bridge surfaces which are exposed shall have a Class 1 or 2 finish as set forth herein unless designated otherwise on the plans.

Bridges with designated surfaces for Class 2 finish are classified as follows:

- Group A - Bridges over highways, roads and streets.
- Group B - Bridges over waterways and railroads.
- Group BB - Twin or adjacent bridges of Group B category.

(A) **Superstructures.** Concrete surfaces to be given a Class 2 finish shall be the exposed surfaces of wings and rails and other exposed surfaces indicated by a double line in Figures 804-39, 804-40, and 804-41.

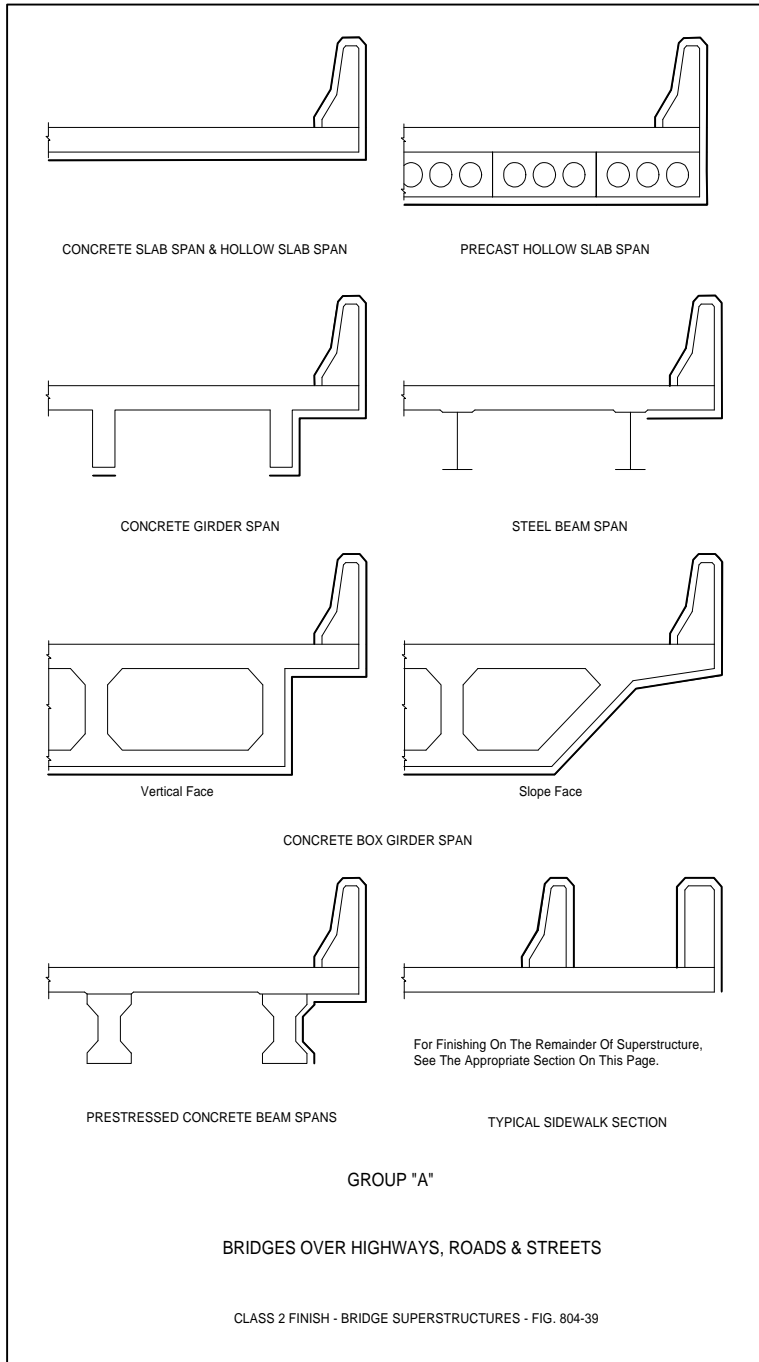
When a Group B or BB also spans a highway, road or street, the superstructure of spans over and extending one span in each direction beyond the lower level highway, road or street shall be given a Class 2 finish as shown for Group A.

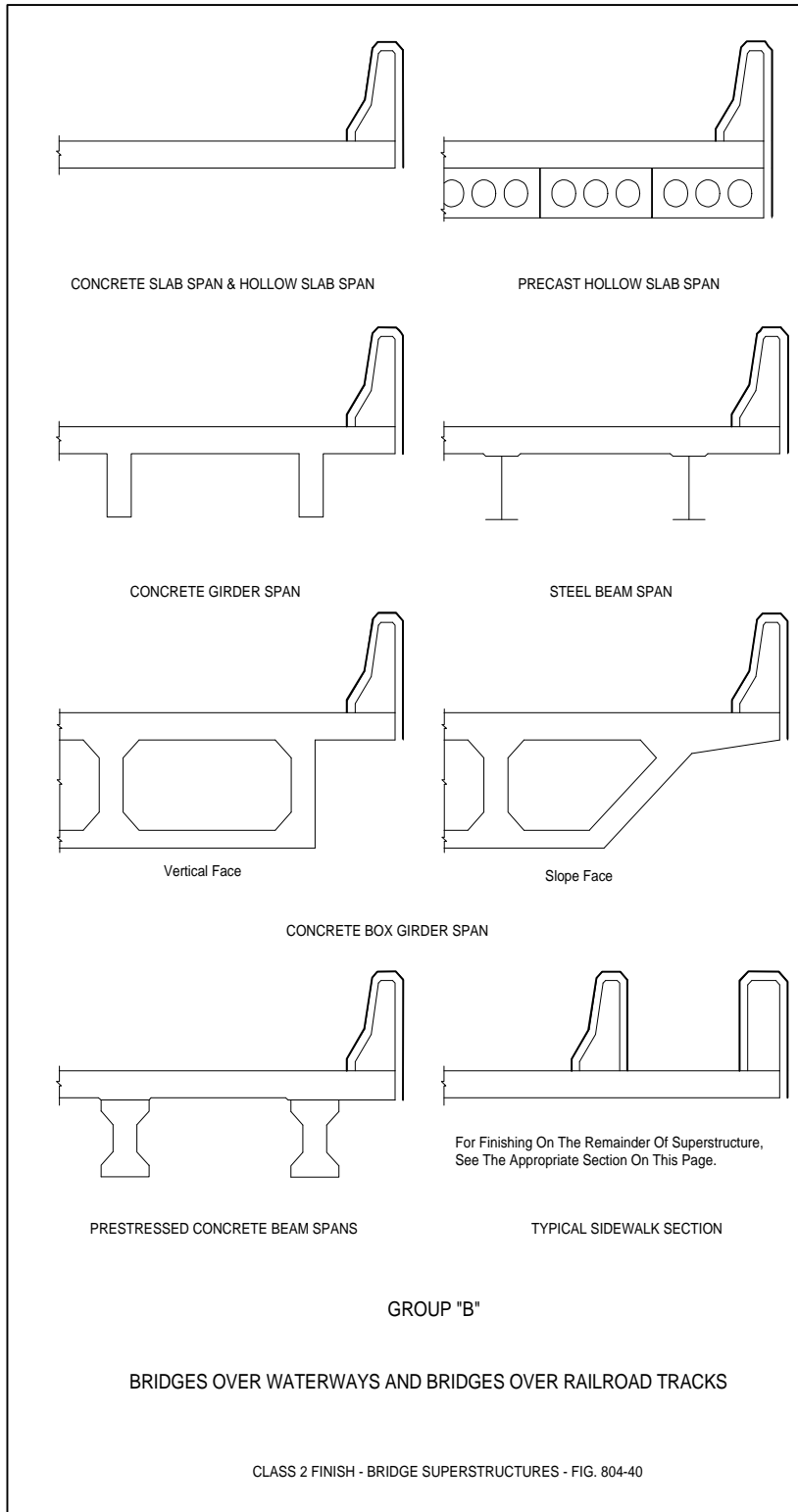
(B) **Substructures.** Concrete surfaces to be given a Class 2 finish are as follows:

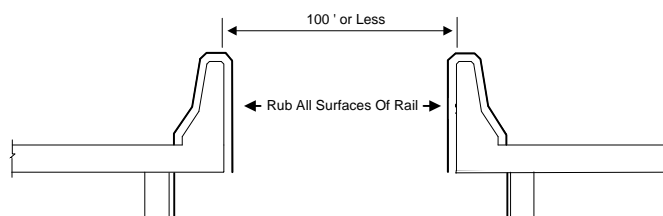
Group A. Exposed surfaces of abutments, end bents, end bent posts, wing walls, railing, retaining walls, parapets, copings, piers, columns, piles, caps, struts or walls between columns or piles, encasement of steel piles, arch rings and spandrel walls.

Group B and BB. Exposed surfaces of abutments, wing walls, end bent posts, railing, retaining walls, parapets and copings.

When a Group B or BB also spans a highway, road or street, the exposed portions of collision walls, bumpers and other substructure units extending one span in each direction beyond the span or spans over the lower level highway, road or street shall be given a Class 2 finish as designated for Group A Bridges.







GROUP "B B" - ADJACENT BRIDGES

GROUP "B B"

TWIN or DUAL BRIDGES

CLASS 2 FINISH - BRIDGE SUPERSTRUCTURS - FIG. 804-41

907-804.03.19.7--Finishing Bridge Floors.

907-804.03.19.7.1--General. Concrete bridge decks shall be struck off and finished by the method(s) designated on the plans.

In the event a method is not designated, the Contractor may use either the longitudinal or transverse method subject to the requirements contained in these specifications.

Except when indicated otherwise on the plans, the final surface texture of the bridge floor shall be either a drag, belt or broom finish. The surface texture specified and surface requirements shall be in accordance with the applicable requirements of Subsections 501.03.17 and 501.03.18 modified only as the Engineer deems necessary for bridge deck construction operations.

907-804.03.19.7.2--Longitudinal Method. The longitudinal method requires that the strike-off screed be supported on accurately graded and supported bulkheads or templates placed across the full width at the end(s) of the pour. Before the concrete is placed, approved fixed templates or wooden bulkheads of not less than 1 1/4 inch lumber shall be placed perpendicular to the centerline of the roadway, or in the case of skew bridges at the angle of skew. The upper surface of the template or bulkheads shall be accurately set to conform to the required grade and crown.

Special attention shall be given to the gutter lines where the strike-off screed cannot reach. The gutters shall be finished by hand and tested with the straight edge. Floor drains shall be set lower than the finished gutter line and finished over. After initial set, the concrete shall be dished out and finished around the drains to form an outlet.

After the concrete has been deposited and rough graded, it shall be struck off by means of a strike-off screed resting on the bulkheads or fixed templates. The strike-off screed shall be of a type satisfactory to the Engineer and shall have sufficient strength to retain its shape under all working conditions. The final surface shall comply with the applicable requirements of Subsections 501.03.17.6 and 501.03.18, and unless otherwise specified in the contract, the final finish under this method shall be the belt finish.

In general, the overall strike-off screed should be trussed, with bracing heavy enough to support the weight of a man without deflecting, and should be adjustable for camber and correction of sag.

The strike-off screed will ride on the bulkheads or fixed templates at the ends of the section being finished. Care shall be taken to see that the bulkhead or fixed template elevations are accurately set since the entire span surface will be controlled by them. The manipulation of the screed shall be such that neither end is raised from the bulkheads or templates during the process.

The concrete shall be struck off by beginning at one curb and proceeding entirely across the span. A slight excess of concrete shall be kept in front of the cutting edge at all times. This operation shall be repeated at least three times. In each case, the strike-off screed shall be picked up and carried back to the point of beginning. No backward strokes will be allowed. The strike-off

screed shall be moved along the bulkheads or fixed templates with a combined longitudinal and transverse motion. This operation may be manual or mechanical. Standing or walking in the fresh concrete ahead of the strike-off screed will not be permitted.

907-804.03.19.7.3--Transverse Method. The transverse method requires that the screeding equipment be supported on accurately graded and supported rails placed beyond the gutter lines and parallel with the centerline of the bridge.

The machine shall be so constructed and operated as to produce a bridge floor of uniform density with minimum manipulation of the fresh concrete and achieved in the shortest possible time. Manual transverse methods of screeding will not be permitted.

The finishing machine shall be supported on vertically adjustable rails set a sufficient distance from the gutter line to allow free movement of the screed from gutter line to gutter line. Satisfactory means of load distribution with minimum rail deflection shall be provided. The screed rails for a deck pour shall be completely in place for the full length of the pour and shall be firmly secured prior to placing concrete. The screed rails shall be adjusted as necessary to compensate for settlement and deflection occurring during the screeding operations. Supports for the screed rail shall be located directly over slab overhang support brackets (reference 907-804.03.14.1).

At least one dry run shall be made the length of each pour with a "tell-tail" device attached to the screed carriage to assure the specified clearance to the reinforcing steel.

The screed shall be equipped with a metal cutting edge or other approved mechanical means for accurately fine grading the plastic concrete to the required grade and surface smoothness and shall be supported by a bridging structure sufficiently rigid and heavy to perform operations satisfactorily on concrete of minimum slump without vibration, distortion, and wrecking of forms. The screed shall be mechanically actuated to deliver the screeding action and for travel in a longitudinal direction at a uniform rate along the bridge floor.

The screed shall complete sufficient passes to strike off all of the excess concrete with ample mortar along the entire leading edge to assure filling of low spots. Care shall be taken to remove all objectionable material from the gutters where final hand finishing will be required.

The selection of the transverse method may require the Contractor to furnish bridge deck concrete which contains an approved water-reducing set retarding admixture in the quantities approved by the Engineer at no additional cost to the State. (Reference 907-804.02.10)

Other finishing requirements shall be in accordance with the general requirements in 907-804.03.19.7.1 and as specified on the plans.

907-804.03.19.7.4--Acceptance Procedure for Bridge Deck Smoothness. After the bridge decks and bridge end slabs are completed, they shall be tested for ride quality using a Contractor furnished profilograph. Profile Index Values shall be determined in accordance with Department

SOPs and these specifications. The profilograph shall meet the requirements of Subsection 907-401.02.6.5. Profiles will be obtained in the wheel paths of the main thru lanes and, where conditions allow, in the wheel paths of any auxiliary lanes or tapers. Profile Index Values for bridge decks and bridge end slabs shall be obtained for all state roads with four lanes or more, on state roads three lanes or less where the current traffic count is 2,000 ADT or higher, or as designated on the plans. Ride quality tests will begin at a point where the rearmost wheel of the profilograph is as close to the beginning of the bridge end slab as possible and shall proceed forward across the remainder of the bridge end slab, across the bridge deck and continue across the next bridge end slab to a point where the frontmost wheel of the profilograph reaches the farthest edge of the bridge end slab. Bridges and bridge end slabs not requiring a ride quality test must meet a 1/8 inch in 10-foot straightedge requirement in longitudinal and transverse directions. Bridges in horizontal curves having a radius of less than 1,000 feet at the centerline and bridges within the superelevation transition of such curves are excluded from a test with the profilograph.

The Profile Index Value for bridge decks including the bridge end slabs shall be averaged for the left and right wheel path for each lane and where applicable, each auxiliary lane and taper, and shall not exceed 65 inches per mile for each lane. In addition, individual bumps or depressions exceeding 0.3 of an inch, when measured from a chord length of 25 feet shall be corrected, and the surface shall meet a 1/8 inch in 10-foot straightedge check made transversely across the deck or slab.

Bridge decks and bridge end slabs not meeting the preceding requirements shall be corrected. Corrective work shall be done at no additional cost to the Department. Corrective work shall consist of diamond grinding in accordance with Subsection 907-804.03.19.7.5. All corrective work shall precede final surface texturing. All surface areas, corrected by grinding, shall be sealed with a sealant approved by the Bridge Engineer.

In case the bridge end slabs are to be constructed on a future project, the bridge deck(s) alone shall be tested for ride quality using the acceptance procedure outlined above, except that the ride quality test will begin at a point where the rearmost wheel of the profilograph is as close to the beginning of the bridge as possible and shall proceed forward across the bridge deck to a point where the frontmost wheel of the profilograph reaches the farthest edge of the bridge.

Expansion joint installation shall be delayed and the joint temporarily bridged to facilitate operation of the profilograph and grinding equipment across the joint wherever feasible.

It shall be the Contractor's responsibility to schedule profilograph testing. The Contractor shall notify the Department at least five (5) days in advance of profilograph testing. The Contractor shall ensure that the area to be tested has been cleaned and cleared of all obstructions. Profilograph testing of bridge decks and bridge end slabs shall be performed by the Contractor under supervision of the Engineer. All profilograph testing shall be performed at no additional cost to the Department. The Contractor will be responsible for traffic control associated with this testing operation.

907-804.03.19.7.5--Grinding Bridge Decks.

907-804.03.19.7.4.1.1--Equipment. The grinding equipment shall be a power driven, self-propelled machine that is specifically designed to smooth and texture Portland cement concrete pavement with diamond blades. The effective wheel base of the machine shall not be less than 12.0 feet. It shall have a set of pivoting tandem bogey wheels at the front of the machine and the rear wheels shall be arranged to travel in the track of the fresh cut pavement. The center of the grinding head shall be no further than 3.0 feet forward from the center of the back wheels.

The equipment shall be of a size that will cut or plane at least 3.0 feet wide. It shall also be of a shape and dimension that does not encroach on traffic movement outside of the work area. The equipment shall be capable of grinding the surface without causing spalls at cracks, joints, or other locations.

907-804.03.19.7.4.1.2--Grinding. The grinding areas will be determined by the Contractor and approved by the Engineer. The Contractor shall develop and submit to the Engineer for approval a Grinding Plan. The Contractor shall allow up to 45 days for the Department to review the Plan prior to starting any grinding operations. This plan shall include as a minimum:

- 1) Name of the project superintendent in responsible charge of the grinding operation.
- 2) List and description of all equipment to be used.
- 3) Maximum depth of each pass allowed by the grinding equipment.
- 4) Maximum width of each pass allowed by the grinding equipment.
- 5) Details of a sequence of the grinding operation.
- 6) Complete data from Profilograph runs, based on a 0.3 inch bump height, for each wheel path over the entire bridge including bridge end slabs, which shall include profile index, bump locations (in stations), bump heights and proposed final cross-slopes. When a computerized profilograph is used, a complete printout of the profile including the header information for each wheel path will be required.
- 7) Data showing reinforcing steel clearance in all areas to be ground.
- 8) A detailed drawing of the deck showing areas to be ground with station numbers and grinding depths clearly indicated.
- 9) A description of grinding in areas where drains are in conflict with grind areas.
- 10) Details of any changes in deck drainage, anticipated ponding, etc.

The Engineer will evaluate the grinding plan for conformance with the plans and specifications, after which the Engineer will notify the Contractor of any additional information required and/or changes that may be needed. Any part of the plan that is unacceptable will be rejected and the Contractor shall submit changes for reevaluation. All approvals given by the Engineer shall be subject to trial and satisfactory performance in the field, and shall not relieve the Contractor of the responsibility to satisfactorily complete the work.

The construction operation shall be scheduled and proceed in a manner that produces a uniform finished surface. Grinding will be accomplished in a manner that eliminates joint or crack faults while providing positive lateral drainage by maintaining a constant cross-slope between grinding

extremities in each lane. Auxiliary or ramp lane grinding shall transition as required from the mainline edge to provide positive drainage and acceptable riding surface.

The operation shall result in a finished surface that conforms as close as possible to the typical cross-section and the requirements specified in Subsection 907-804.03.19.7.4.

The Contractor shall establish positive means for removal of grinding residue. Residue shall not be permitted to flow across lanes used by public traffic or into gutters or drainage facilities.

907-804.03.19.7.4.1.3--Final Surface Finish. The grinding process shall produce a finish surface that is as close as possible to grade and uniform in appearance with a longitudinal line type texture. The line type texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy type appearance. The peaks of the ridges shall be approximately 1/16 inch higher than the bottoms of the grooves with approximately 53 to 57 evenly spaced grooves per foot. Grinding chip thickness shall be a minimum of 0.080 inches thick.

The finished bridge decks and bridge end slabs shall be retested for riding quality using a Contractor furnished profilograph meeting the requirements of Subsection 401.02.6.5. The finished results shall meet the following conditions:

- (a) Individual bumps or depressions shall not exceed 0.3 inches when measured from a chord length of 25 feet.
- (b) The final index value for the bridge deck and bridge end slabs shall be an average of both the right and left wheel paths of each lane and shall not exceed 65 inches per mile.

The final profilogram will be furnished to the Engineer for informational purposes.

907-804.03.19.8--Finishing Horizontal Surfaces of Footings or Top Slabs of Box Bridges, Culverts, or Other Structures. The finishing of horizontal surfaces of footing or top slabs of box bridges, culverts, or other structures shall be achieved by placing an excess of material in the form and removing or striking off the excess with a template, forcing the coarse aggregate below the mortar surface. After the concrete has been struck off the surface shall be given a Class 6 finish.

907-804.03.19.9--Finishing Exposed Surfaces of Sidewalks. After the concrete has been deposited in place it shall be consolidated and the exposed surface shall be given a Class 6 finish. An edging tool of the required radius shall be used on all edges and at all expansion joints. The surface shall have a granular texture which will not be slick when wet.

Sidewalk surfaces shall be laid out in blocks with an approved grooving tool as shown on the plans or as directed.

907-804.03.20--Opening Bridges.

907-804.03.20.1--Public Traffic. Unless otherwise specified, concrete bridge floors shall be closed to public highway traffic for a period of at least 21 days after placing concrete.

907-804.03.20.2--Construction Traffic. Unless otherwise specified, concrete bridge floors shall be closed to construction traffic for a period of seven (7) days after placing concrete and the minimum required compressive strength for the concrete placed is obtained.

907-804.03.21--Final Cleanup. Upon completion of the work all equipment, surplus materials, forms, and waste material shall be removed, the bridge cleaned, and the site of the work given a final cleanup.

907-804.03.22--Precast-Prestressed Concrete Bridge Members.

907-804.03.22.1--Plant, Equipment, Inspection and Supervision. All installations and plants for the manufacture of precast- prestressed bridge members shall be inspected and approved by the Engineer in a manner and under the conditions as determined by the Department prior to the manufacture of members to be used by the Department. Bridge members manufactured in plants or installations not so approved will not be accepted for use in the work. The Contractor or other manufacturer shall employ a technician skilled in the adopted system of prestressing to supervise the manufacturing operations. This technician shall be acceptable to the Engineer. Acceptance of a member at the plant shall in no way be final, and further inspection will be made at the structure, before and after the member has been placed in its final position.

The jacks for stressing shall be equipped with accurate calibrated gages for registering the jacking pressure. Means shall be provided for measuring elongation of strands to at least the nearest 1/16 inch.

Prior to beginning work, the Contractor or manufacturer shall have all jacks to be used, together with their gages, calibrated by an approved laboratory. All jacks and gages shall have an accuracy of reading within two percent. The testing agency shall furnish the Engineer a statement certifying that the jacks and gages meet this requirement. During the progress of the work, if a gage appears to be giving erratic results or if the gage pressure and elongations indicate materially differing stresses, recalibration will be required.

Calibration of jacks and gages shall be repeated at intervals deemed necessary by the Engineer. These intervals for calibration shall not exceed one year.

Shop drawings of prestressed beams, including an erection plan, shall be submitted in duplicate to the Bridge Engineer for approval prior to manufacture of members.

907-804.03.22.2--Stressing Requirements.

907-804.03.22.2.1--Methods. Plans for the particular bridge members will show prestressing by one of the following methods:

- (A) **Pretensioning.** The prestressing strands are stressed initially. After the concrete is placed, cured, and has attained the compressive strength shown on the plans, the stress is transferred to the member.
- (B) **Posttensioning.** The posttensioning tendons are installed in voids or ducts and are stressed and anchored after development of the compressive strength specified on the plans. The voids or ducts are then pressure grouted.
- (C) **Combined Method.** Part of the reinforcing is pretensioned and part posttensioned. Under this method all applicable requirements for the two methods specified shall apply to the respective stressing elements being used.

907-804.03.22.2.2--Alternate Details for Prestressed Members. In the event that the Contractor (Manufacturer) desires to use materials or methods that differ in any respect from those shown on the plans or described in these specifications, he shall submit for approval full plan details (on acceptable tracings suitable for reproduction) and specifications, and these shall become the property of the Department. In order for alternate materials and/or methods to be considered, they will be required to comply fully with the following:

- A. Provisions equal to those stipulated in these specifications.
- B. Current AASHTO Specifications.
- C. Recommendations of materials manufacturer.
- D. Camber tolerance of beams and spans shown on plans.

(Note: Alternate materials and methods will not be authorized on Federal-Aid Projects.)

The Engineer shall be the sole judge as to the adequacy and propriety of any variation of materials or methods.

907-804.03.22.2.3--Stressing Procedure.

- (A) **General.** Stressing shall be performed by suitable jacks working against unyielding anchorages and capable of maintaining the required stress for an indefinite period without movement or yielding. Strands may be stressed singularly or in a group.

The tension to be applied to each strand shall be as shown on the plans. The tension shall be measured by both jacking gages and elongations in the strands and the result shall check within close limits.

It is anticipated that there will possibly be a difference in indicated tension between jack pressure and elongation of about five (5) percent. In this event, the discrepancy shall be placed on the side of slight overstress rather than understress.

In the event of an apparent discrepancy between gage pressure and elongation of as much as five (5) percent, the entire operation shall be carefully checked, and the source of error determined before proceeding further.

Elongation is to be measured after the strands have been suitably anchored, and all possible slippage at the anchorages has been eliminated.

In all stressing operations, the stressing force shall be kept as nearly symmetrical about the vertical axis of the member as practicable.

- (B) Pretensioning.** All strands to be prestressed shall be brought to a uniform initial tension prior to being given their full pretensioning. This uniform initial tension of approximately 1000 to 2000 pounds shall be measured by suitable means such as a dynamometer so that its value can be used as a check against elongation computed and measured.

After the initial tensioning, the strand or group shall be stressed until the required elongation and jacking pressure are within the limits specified.

When the strands are stressed in accordance with the plan requirements and these specifications and all other reinforcing is in place, the concrete shall be placed in the prepared forms.

Strand stress shall be maintained until the concrete between anchorages has attained the required compressive strength as determined by cylinder tests, after which the strands shall be cut off flush with the ends of column members, and cut as shown on the plans for beams, girders, etc. Strands shall be cut or released in such a manner that eccentricity of prestress will be kept to a minimum and no damage to the member will result. The strand cutting pattern shall be as shown on the plans or as approved by the Bridge Engineer.

- (C) Posttensioning.** For all posttensioning tendons/bars the anchor plates shall set exactly normal in all directions to the axis of the tendon/bar. Parallel wire anchorage cones shall be recessed within the beams. Tensioning shall not take place until the concrete has reached the compressive strength shown on the plans.

Elongation and jacking pressures shall make appropriate allowance for all possible slippage or relaxation of the anchorage. Posttensioning tendons/bars shall be stressed in the order and manner shown on the plans.

The units shall be tensioned until the required elongations and jacking pressures are attained and reconciled within the limits specified in 907-804.03.22.2.3(A) with such overstresses as approved by the Engineer for anchorage relaxation.

Independent references shall be established adjacent to each anchorage to indicate any yielding or slippage that may occur between the time of initial stressing and final release of the strands.

Straight tendons/bars may be tensioned from one end. Unless otherwise specified, curved tendons shall be stressed by jacking from both ends of the tendons.

- (D) **Combined Method.** In the event that girders are manufactured with part of the reinforcement pretensioned and part posttensioned, the applicable portions of the requirements listed herein shall apply to each type.

907-804.03.22.3--Manufacture.

907-804.03.22.3.1--Forms. Metal forms shall be used, except that wooded headers may be allowed. They shall be well braced and stiffened against undesirable deformations under pressure of the wet concrete and shall have smooth joints and inside surfaces accessible for adequate cleaning after each use.

Forms and centerings shall be made and maintained true to the shapes and dimensions shown on the approved plans during their use.

Form ties shall be either the threaded or snapoff type so that no form wires or metal pieces will be left at the surface of the finished concrete.

Pile ends shall be perpendicular to the axis of the pile, and all right angle corners shall be appropriately chamfered or rounded. Joints between panel forms shall be made smooth and tight. Failure of members to conform to the foregoing may be cause for rejection.

The inside faces of all forms shall be coated with a form lacquer approved by the Engineer. Care shall be exercised to prevent the form lacquer from getting on the reinforcement.

907-804.03.22.3.2--Placing and Fastening Steel. All steel shall be accurately placed in the position shown on the plans and firmly held during the placing and setting of the concrete. If necessary, distances from the forms shall be maintained by stays, blocks, ties, hangers, or other approved supports. Blocks to keep steel from contact with the forms shall be precast mortar blocks of approved shape and dimensions. Where required, layers of steel shall be separated by mortar blocks or other suitable devices. Wooden blocks will not be permitted.

The tolerances for placing and fastening steel are found in 907-804.03.22.7.

907-804.03.22.3.3--Holes for Prestressing Tendons/Bars. Holes provided in girders for prestressing tendons/bars shall be formed by means of inflatable rubber tubing, flexible metal conduit, metal tubing, or other approved means.

907-804.03.22.4--Placing and Curing Concrete.

907-804.03.22.4.1--Placing. The placing and curing of concrete shall meet the applicable requirements of these specifications.

The plant for handling, placing, and curing concrete shall be arranged to obtain a uniformly dense and high-grade concrete in all parts of the bridge member under all working and weather conditions.

The layout of the casting and curing plant shall be subject to the approval of the Engineer.

Concrete shall not be deposited in the forms until the Engineer has inspected the placing of the reinforcement, anchorages, and prestressing steel and given his approval therefor. The concrete shall be satisfactorily vibrated internally or externally, or both, as ordered. The vibrating shall be done with care and in such a manner as to avoid displacing reinforcing and wire strands.

907-804.03.22.4.2--Curing. Initial curing of all members shall be accomplished by fogging, wet burlap, or other approved methods and shall begin as soon as the concrete has hardened sufficiently to withstand surface damage. This curing shall continue until the concrete has attained its initial set; however, the minimum initial curing period shall be three hours and the maximum, five hours. If a retarding agent is used, the minimum period shall be five hours and the maximum seven hours. Following the initial curing, curing shall be resumed by steam, specified as follows.

In steam curing the member shall be enclosed in a suitable enclosure. The enclosure shall be of sturdy construction to withstand wind and shall be weather-tight to minimize moisture and heat losses. There shall be at least six inches of space between the enclosure and concrete for proper circulation of steam. Application of the steam shall not be directly on the surface of the concrete.

The steam shall be completely saturated in order to prevent loss of humidity and to provide excess moisture for proper hydration of the cement. When weather conditions require, and when directed, additional moisture shall be applied during steam curing in order that the surface of the concrete will show free moisture. This can be accomplished by use of fogging, spraying, wet burlap, or other approved methods.

The temperature of the interior of the enclosure shall be at least 80°F and not more than 160°F. The ideal temperature is 100° to 130°F. During initial application of the steam, the ambient air temperature within the enclosure shall increase at a rate not exceeding 40°F per hour.

At least one recording thermometer for each enclosure shall be furnished by the producer. If the enclosure is longer than 300 feet, an additional recording thermometer shall be furnished for each additional 300 feet of length or fraction thereof. Each recording thermometer shall be placed within the enclosure at a point designated by the inspector. An approved portable thermometer shall be furnished by the producer for use by the producer and the Inspector in determining the temperature(s) at other points within the enclosure. The temperature at any point within the enclosure shall not vary more than 10°F from that of the recording thermometer or the average of the recording thermometers if more than one is used.

An alternate means of determining and recording temperatures may consist of the use of temperature bulbs connected electrically to a central recorder. The same number of such bulbs will be required as specified above for recording thermometers, and the central recorder shall record the temperature of each bulb.

Steam may be temporarily suspended, if necessary, during removal of side forms. This operation shall be performed in such a manner that the concrete in any portion of the member shall not be exposed for more than one hour. If directed, due to low humidity or temperature, the exposed concrete shall be kept wet. In discontinuing the steam, it shall be cut off for at least one hour before uncovering the member. No restrictions as to the rate of increase of temperature are applicable for applying steam after this operation is completed.

Steam may be suspended, if necessary, during transfer of the tensioning load (detensioning or posttensioning). No restrictions as to rate of increase or decrease of temperature are applicable to discontinuing or re-applying steam for this operation. However, the concrete shall be kept wet during exposure.

After the stress-transfer operation, curing may be resumed either by steam, cotton mats, wetted burlap, or constant fogging. Liquid membrane may be used only when authorized in writing by the Engineer. When permitted, liquid membrane shall be white pigmented and shall be applied at the rate of one gallon to not more than 150 square feet of surface. Membrane shall not be applied to portions of units designated to be bonded to other concrete or which are to receive a Class 2 finish. Such portions shall be cured by other methods. Curing time shall be continued until the concrete has attained a compressive strength of 5,000 psi as evidenced by test specimens. Such specimens shall be cured under conditions not more favorable than the concrete in the member.

907-804.03.22.4.3--Removal of Side Forms. Side forms may be removed after the concrete has attained sufficient strength to maintain a true section. In order to obtain "sufficient strength," it may be necessary to cure members for 12 hours or more as prescribed in 907-804.03.22.4.2, or to attain a minimum compressive strength of 1,000 psi.

If high-early-strength concrete is obtained by use of low slump (0 to 1.5 inch) concrete, vacuum process, or other approved methods, side forms may be removed earlier; however, approval of the methods and revision from normal schedules will be made only after inspections by the District and Jackson Laboratories have determined that satisfactory results will be attained by the methods and schedules proposed.

907-804.03.22.4.4--Grouting. The holes through posttensioned members in which the tendons are installed shall be equipped with approved grouting vents. All prestressing tendons to be bonded shall be free of dirt, loose rust, grease, or other deleterious substances. Before grouting, the ducts shall be free of water, dirt, and other foreign substances. The ducts shall be blown out with compressed air until no water comes through the ducts. For long members with draped tendons an open tap at low points may be necessary. After completion of stressing, the annular

space between sides of tendon and sides of hole shall be grouted as set in the following paragraphs.

With the grouting vent open at one end of the core hole, grout shall be applied continuously under moderate pressure at the other end until all entrapped air is forced out through the open grout vent, as evidenced by a steady stream of grout at the vent. Whereupon, the open vent shall be closed under pressure. The grouting pressure shall be gradually increased to refusal (at least 75 psi) and held at this pressure for approximately 10 seconds, and the vent shall then be closed under this pressure.

Portland cement grout shall consist of a mixture of:

- 1 part Type 1 portland cement
- 1/4 part fly ash
- 3/4 part washed sand (all passing No. 16 sieve and not more than five percent retained on No. 30)
- 4 to 6 gallons of water per bag of cement.

A plasticizing admixture, subject to approval by the Engineer, shall be used in accordance with the manufacturer's recommendations.

The grout shall be mixed in a mechanical mixer, shall have the consistency of heavy paint, and shall be kept agitated until placed.

Members shall not be moved before the grout has set, ordinarily at least 24 hours at 80° F or higher.

907-804.03.22.5--Finishing and Marking. Units shall be given a Class 1 finish at the plant and shall be given a Class 2 finish after erection when required.

Recesses in girders at end of diaphragm bars, holes left by form ties, and other surface irregularities shall be carefully cleaned and patched with an approved non-shrink commercial grout or a non-shrinkage mortar of the following composition:

- 1 part Type 1 cement
- 1 1/2 to 2 parts fine sand
- 1/2 to 3/4 ounces aluminum powder per sack of cement
- Approved admixture per 907-804.02.10.
- Sufficient water to produce a workable but rather stiff mix.

Prior to final inspection, the units shall be clearly marked in accordance with Department SOP.

907-804.03.22.6--Handling, Storage, and Installation. Posttensioned members may be handled immediately after completion of stressing and grout has set. Pretensioned members may

be handled immediately after release of tensioning. In either case, the members shall have developed a minimum compressive strength of 4000 psi prior to handling. In the event stressing is not done in a continuous operation, members shall not be handled before they are sufficiently stressed, as determined by the Engineer, to sustain all forces and bending moments due to handling. In the handling, storage, and transporting of beams or girders, they shall be maintained in an upright position (position as cast) at all times and shall be picked up from points within distance from beam ends equal to beam depth or at pick-up points designated on the plans. Disregard of this requirement and dropping of units may be cause for rejection, whether or not injury to the unit is apparent. Piles shall be picked up and loaded for shipment at points shown by the suspension diagram on the plans. Extreme care shall be used in handling and storing piles to prevent damage. The dropping of a pile may be cause for rejection of same, whether or not there is apparent injury to the member.

Care shall be exercised during the storage, hoisting, and handling of precast units to prevent damage. Damaged units shall be replaced by the Contractor at his expense.

When members are stacked for storage, each layer shall be supported at or near the pick-up points. Supports shall be carefully placed in a vertical line in order that the weight of any member will not stress an underlying member. To prevent damage in moving members it is suggested that rigid supports be covered with a cushion of wood or other resilient material.

Members shall not be transported until at least one day after the concrete has reached a compressive strength of 5,000 psi or greater strength when shown on the plans.

Piles used in salt water shall not be driven until concrete is seven days old, and air-entrained concrete shall be used in such piles.

After prestressed concrete voided slab units are set, doweled and bolted in their final position the keyways and dowel holes shall be filled with an approved non-shrink grout. Traffic shall not be permitted on the spans for 24 hours after grouting, and heavy construction equipment exceeding 15 tons will not be permitted on the spans for a period of 72 hours after grouting.

Adjacent slab units that mismatch more than one-fourth inch shall be adjusted prior to grouting of the shear keys. The maximum deviation from cross-section and grade (exclusive of camber) at any point shall not exceed one-fourth inch; and when the surface is checked with a ten-foot straightedge applied both parallel and perpendicular to the centerline, the variance shall not exceed one-fourth inch.

In addition to the requirements set out in this section, the applicable requirements of Section 803 shall apply.

907-804.03.22.7--Tolerances for Accepting Precast Prestressed Concrete.

Precast Prestressed Concrete I-Beams

Depth (flanges, web and fillets)	±1/4 in.
Depth (overall)	+1/2 in. to -1/4 in.
Width (flanges and fillets)	+3/8 in. to -1/4 in.
Width (web)	+3/8 in. to -1/4 in.
Length of Beam	±1/8 in. per 10 ft. or 1/2 in. whichever is greater.

Exposed beam ends deviation from square or designated skew	Horizontal = 1/4 in. Vertical = 1/8 in. per ft. of beam ht.
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Side Inserts (spacing between centers of inserts and from the centers of inserts to the ends of the beams)	±1/2 in.
Bearing Plates (spacing between the centers of bearing plates)	±1/8 in. per 10 ft. or 1/2 in. whichever is greater.

Bearing Plates (spacing from the centers of bearing plates to the ends of the beams)	+1/2 in.
Bearing Plate or Bearing Area deviation from plane	±1/16 in.
Stirrup Bars - Projection above top of beam	±3/4 in.
Stirrup Bars - Longitudinal Spacing	±1 in.
End Stirrup Bars	not more than 2 in. from the end of the beam

Horizontal Alignment (deviation from a straight line parallel to the centerline of beam):

At the yard site before shipment -	1/4 in. per 10 ft.
When erected and the diaphragms poured	1/8 in. per 10 ft.
Center of gravity of strand group	±1/4 in.
Center of gravity of depressed strand group at end of beam	±1/2 in.
Position of post-tensioning duct	±1/4 in.
Position of hold-down points for depressed strands	±6 in.
Position of handling devices	±6 in.

Precast Prestressed Concrete Piling

Width or Diameter	-1/4 in. to + 3/8 in.
Head out of square	1/16 in. per 12 in. of width
Length of Pile	±1 1/2 in.
Horizontal Alignment (deviation from a straight line parallel to the centerline of the pile)	1/8 in. per 10 ft.
Void location	±1/2 in.
Stirrup Bars or Spiral Positioning	Same as for I-Beams
Tendon Positioning	Same as for I-Beams

Handling Device Positioning

Same as for I-Beams

Prestressed Concrete Voids Slab Units and Precast Concrete Caps

Depth	± 1/4 in.
Width	± 1/4 in.
Length	± 1/2 in.
Location of Void (Vertical)	± 1/4 in.
Location of Void (Horizontal)	± 1/2 in.
Horizontal Alignment (Deviation from a straight line parallel to the centerline of unit)	± 3/8 in.
Center of Gravity of Strand Group (Vertical)	± 1/4 in.
Center of Gravity of Strand Group (Horizontal)	± 1/2 in.
Stirrup Positioning	Same as for I-Beams
Handling Device Positioning	Same as for I-Beams

These tolerances for beams and piles may be modified for sufficient cause by the Engineer, who shall be the final judge of the acceptability of the member. The member should be checked immediately after strand release and again immediately before shipment.

In all cases, the variation should be uniform and not a local variation from alignment. If the variation is caused by unsymmetrical strand pattern or some other feature of bad workmanship, this should be called to the attention of the Engineer prior to shipment as it may be ground for rejection.

907-804.04--Method of Measurement. The volume of concrete, complete and accepted, will be measured in cubic yards. In computing the volume, the neat dimensions shown on the plans will be used, except for such variations as may be ordered in writing by the Engineer. The quantity of concrete involved in fillets, scorings, and chamfers one square inch or less in cross-sectional area will be neglected. Deductions shall be made for the following:

- (1) The volume of structural steel, including steel piling encased in concrete.
- (2) The volume of timber piles encased in concrete, assuming the volume to be 0.80 cubic foot per linear foot of pile.
- (3) The volume of concrete piles encased in concrete.

No deduction will be made for the volume of concrete displaced by steel reinforcement, floor drains, or expansion joint material that is one inch or less in width normal to the centerline of the joint. Where railing is bid as a separate item, that portion of the railing above the top of the curb, above the surface of the sidewalk, or above the bridge roadway, as the case may be, will not be included in the measurement of concrete, but will be measured as railing. Massive pylons or posts which are to be excepted from payment for railing and are intended to be measured for as concrete will be so noted on the plans.

When shown on the plans or directed by the Engineer, concrete placed as a seal for cofferdams will be measured by the cubic yard actually in place, except that no measurement will be made of seal concrete placed outside of an area bounded by vertical planes 18 inches outside the neat lines of the footing as shown on the plans or as directed and parallel thereto.

Reinforcing steel will be measured and paid for in pounds as set out in Section 805.

Unless otherwise specified, structural steel will be measured and paid for as set out in Section 810.

Excavation for bridges will be measured and paid for as in Section 801.

Piling will be measured and paid for as set out in Sections 802 and 803.

Railing will be measured and paid for as set out in Section 813.

Prestressed concrete beams and plank will be measured by the linear foot.

Prestressed concrete voided slab units (interior and exterior with railing) and precast concrete caps (intermediate and end cap with winged abutment wall) of the size and type specified will be measured by the unit complete in place and accepted. Railing, winged abutment walls, grout, tie rods, nuts, washers, bearing pads and other appurtenances will not be measured for separate payment.

907-804.05--Basis of Payment. Concrete will be paid for at the contract unit price per cubic yard for the class or classes specified, complete in place. Prestressed concrete beams and plank will be paid for at the contract unit per linear foot of specified size and type.

Prestressed concrete voided slab units and precast caps will be paid for at the contract unit price per each for the specified types and sizes, complete in place and accepted; which price shall be full compensation for furnishing, hauling and erecting the members; including all prestressing reinforcement and other reinforcement in the members. Payment at the contract unit prices bid shall be full compensation for furnishing all materials, equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

907-804-A: Bridge Concrete (Class ____)	- per cubic yard
907-804-B: Box Bridge Concrete (Class ____)	- per cubic yard
907-804-C: _____ Prestressed Concrete Beam (Length)	- per linear foot

907-804-D:	_____ Prestressed Concrete Plank (Length)	- per linear foot
907-804-E:	_____ Prestressed Concrete Voided Slab (* Int.) (Length)	- per each
907-804-F:	_____ Prestressed Concrete Voided Slab (* Ext.) (Length)	- per each
907-804-G:	_____ Precast Concrete Caps (End Unit with Wall) (Length)	- per each
907-804-H:	_____ Precast Concrete Caps (Intermediate Unit) (Length)	- per each

*Description

SPECIAL PROVISION NO. 906-3

Training Special Provisions

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor's equal employment opportunity affirmative action program training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under this special provision will be as indicated in the bid schedule of the contract.

In the event that a Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeymen status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a

journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the State highway agency and the Federal Highway Administration. The State highway agency and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A

Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

SPECIAL PROVISION NO. 906-6

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ON-THE-JOB TRAINING PROGRAM

ALTERNATE TRAINING SPECIAL PROVISION

PURPOSE

The purpose of the On-The-Job Training (OJT) Program is to provide training for minority, female and economically disadvantaged individuals in order that they may develop marketable skills and gain journey status in the skilled craft classifications in which they are being trained.

INTRODUCTION

[This voluntary](#) OJT Program has been developed through the partnering efforts of the Road Builders of Mississippi, the Federal Highway Administration (FHWA) and the Mississippi Department of Transportation (MDOT).

The OJT Program has been designed for use by participating contractors and subcontractors in meeting their training needs. The objective of the OJT Program is to develop skilled workers in the skilled craft trade areas of highway construction who are sufficiently trained to be productive employees in the highway construction industry work force.

The success of the OJT Program will require that contractors and subcontractors [take part in the program and](#) follow uniform procedures in training [and in tracking trainee's progress](#).

FUNDING

MDOT will establish an annual OJT Fund [from](#) which, contractors and subcontractors may [bill the](#) Department directly for hours worked by trainees. The funding source of this money will be state and federal funds for MDOT's OJT Program.

DISBURSEMENT OF FUNDS

[MDOT will pay \\$3.00 per hour toward the trainee's salary](#) for each hour of training performed by [each](#) trainee in an approved training program. Program reimbursements will be made directly to the prime or sub contractor. [Requests](#) for payment will be submitted to the Office of Civil Rights for approval.

Contractors must [provide a signed invoice](#) providing the following information to be reimbursed.

- Contractor's Name
- Mailing Address
- Trainee Name
- [Social Security Number](#)

- Race
- Sex
- Project Number
- Job Classification
- Total Number of Hours Completed

TRAINING PROGRAM APPROVAL

A. To use the OJT Program on highway construction projects, the contractor will notify the Department Office of Civil Rights using the On-the-Job Trainee [Schedule Form](#). The notification must include the following information:

- Trainee Starting Date
- Project number (s) trainee starting on
- Training program (classification) to be used; and
- [Number of Training Hours Required](#)

B. If a contractor chooses to use a training program different from those listed in the OJT Program [Manual](#), or desires to train in a different classification, the training program must be submitted in its entirety for approval by the Department and FHWA. The training proposal must include the following:

1. The primary objective of the program: To provide training for minority, female and economically disadvantaged individuals for development to full journey status in the work classifications in which they are being trained.
2. The minimum number of hours and type of training the trainee will receive as it relates to each specific task required to achieve journey status.
3. [No less than](#) minimum wage.
4. Trainee certification of completion.
5. Records and reports submitted to the Office of Civil Rights on a [monthly](#) basis.

DEPARTMENT RESPONSIBILITY

1. Department project staff will monitor trainees on the project. They will monitor payrolls for payment of correct wage rates and fringe benefits. The Office of Civil Rights will maintain a master list by contractor name, project number, trainee name and trainee social security number to aid project staff in monitoring trainees who work on multiple projects.
2. The Office of Civil Rights may elect to interview trainees periodically during the training period to assess their performance and training program.

CONTRACTOR RESPONSIBILITY

1. Trainees must be identified on payrolls (i.e. dragline trainee).
2. When any trainee completes a program, or is terminated for a reason or reasons other than successful completion, the contractor must include the date of completion or an explanation for the termination and date of termination on the [OJT Termination Report](#).
3. The contractor will assign each trainee to a particular person--either a supervisor or a journeyman/woman who is proficient in the craft the trainee is being trained in, to ensure that timely instructional experience is received by the trainee. This person, cooperating with the appropriate company personnel, will see that proper records and the total intended training hours are completed during the allocated number of hours set up in the classification criteria.
4. The contractor has the prerogative of terminating the training period of the trainee and advancing the trainee to journey status. Approval requests must be submitted to the Office of Civil Rights with an explanation (*refer to 2 above*).
5. Upon notification from the contractor, the Department will issue a [skill verification card](#) and certificate of [training](#) to the trainee.
6. Trainees may be transferred to state-aid highway construction projects in order to complete the training program. If transfers are made the Office of Civil Rights must be notified on the [Monthly Trainee](#) Form. All of the training hours completed by trainees will count toward overall program completion.
7. Program reimbursements will be made directly to the prime or sub contractor.

WAGE RATE

The wage rate for all trainees is \$5.15, during their OJT training program. Trainees shall be paid full fringe benefit amounts, where applicable. At the completion of the training program, the trainee shall receive the wages of a skilled journey.

RECRUITMENT AND SELECTION PROCEDURES

A. Prerequisites for Trainees

To be qualified for enrollment in the OJT Program, trainees must possess basic physical fitness for the work to be performed, dependability, willingness to learn and ability to follow instructions.

B. Licenses

Truck driver trainees must possess appropriate driver permits or licenses for the operation of Class A, B and C trucks. However, when an instructional permit is used in lieu of a license, the trainee must be accompanied by an operator who:

1. Holds a license corresponding to the vehicle being operated;
2. Has had at least one year of driving experience; and
3. Is occupying the seat next to the driver.

C. Recruitment

1. Notices and posters setting forth the contractor's Equal Employment Opportunity Policy and availability of training programs will be placed in areas readily accessible to employees, applicants for employment and potential employees.
2. The contractor must target minority, female or economically disadvantaged trainees.
3. The contractor will conduct systematic and direct recruitment through public and private employee referral sources. Contractors must submit the trainee's name and completed application form to the Office of Civil Rights for review and approval. Approval must be obtained before the trainee can begin work under the training program.
4. Present employees will be screened for upgrading.

D. Selection

1. The selection and employment of a person by participating contractor shall qualify the person for the OJT Program.
 2. Selection will be made without regard to race, color, religion, sex, age or national origin and shall be completely nondiscriminatory.
 3. Employment of trainees will be in accordance with the work force requirements of the contractor. Each contractor will hire and train the trainees for uses in their own organization.
 4. Written certification of individuals under the category of economically disadvantaged can be provided to the contractor at the time of the interview. This certification must then be provided to the Office of Civil Rights with the other required information as part of the approval process for trainees.
- **NOTE:** The OJT Program is to provide training for minority, female and economically disadvantaged individuals in order that they may develop marketable skills and gain journey status in the skilled craft classifications in which they are being trained. However, this program does not exclude trainees that are not members of the above groups.

S E C T I O N 9 0 5 - P R O P O S A L

Date _____

Mississippi Transportation Commission
Jackson, Mississippi

Sirs: The following proposal is made on behalf of _____
_____ of _____

for constructing the following designated project(s) within the time(s) hereinafter specified.

The plans are composed of drawings and blue prints on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

The Specifications are the current Standard Specifications of the Mississippi Department of Transportation approved by the Federal Highway Administration, except where superseded or amended by the plans, Special Provisions and Notice(s) to Bidders attached hereto and made a part thereof.

I (We) certify that I (we) possess a copy of said Standard and Supplemental Specifications.

Evidence of my (our) authority to submit the Proposal is hereby furnished. The proposal is made without collusion on the part of any person, firm or corporation. I (We) certify that I (we) have carefully examined the Plans, the Specifications, including the Special Provisions and Notice(s) to Bidders, herein, and have personally examined the site of the work. On the basis of the Specifications, Special Provisions, Notice(s) to Bidders, and Plans, I (we) propose to furnish all necessary machinery, tools, apparatus and other means of construction and do all the work and furnish all the materials in the manner specified. I (We) understand that the quantities mentioned herein are approximate only and are subject to either increase or decrease, and hereby propose to perform any increased or decreased quantities of work at the unit prices bid, in accordance with the above.

Attached hereto is a certified check, cashier's check or Proposal Guaranty Bond in the amount as required in the Advertisement (or, by law).

INSTRUCTION TO BIDDERS: Alternate and Optional Items on Bid Schedule.

1. Two or more items entered opposite a single unit quantity WITHOUT DEFINITE DESIGNATION AS "ALTERNATE ITEMS" are considered as "OPTIONAL ITEMS". Bidders may or may not indicate on bids the Optional Item proposed to be furnished or performed WITHOUT PREJUDICE IN REGARD TO IRREGULARITY OF BIDS.
2. Items classified on the bid schedule as "ALTERNATE ITEMS" and/or "ALTERNATE TYPES OF CONSTRUCTION" must be preselected and indicated on bids. However, "Alternate Types of Construction" may include Optional Items to be treated as set out in Paragraph 1, above.
3. Optional items not preselected and indicated on the bid schedule MUST be designated in accordance with Subsection 102.06 prior to or at the time of execution of the contract.
4. Optional and Alternate items designated must be used throughout the project.

I (We) further propose to perform all "force account or extra work" that may be required of me (us) on the basis provided in the Specifications and to give such work my (our) personal attention in order to see that it is economically performed.

SECTION 905 -- PROPOSAL (CONTINUED)

I (We) further propose to execute the attached contract agreement (Section 902) as soon as the work is awarded to me (us), and to begin and complete the work within the time limit(s) provided for in the Specifications and Advertisement. I (We) also propose to execute the attached contract bond (Section 903) in an amount not less than one hundred (100) percent of the total of my (our) part, but also to guarantee the excellence of both workmanship and materials until the work is finally accepted.

I (We) enclose a certified check, cashier's check or bid bond for **five percent (5%) of total bid** and hereby agree that in case of my (our) failure to execute the contract and furnish bond within Ten (10) days after notice of award, the amount of this check (bid bond) will be forfeited to the State of Mississippi as liquidated damages arising out of my (our) failure to execute the contract as proposed. It is understood that in case I am (we are) not awarded the work, the check will be returned as provided in the Specifications.

Respectfully Submitted,

DATE _____

Contractor

BY _____
Signature

TITLE _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE _____

FAX _____

E-MAIL _____

(To be filled in if a corporation)

Our corporation is chartered under the Laws of the State of _____ and the names, titles and business addresses of the executives are as follows:

President

Address

Secretary

Address

Treasurer

Address

The following is my (our) itemized proposal.

Construction necessary to modify existing curb and sidewalk or construct new curb and sidewalk to comply with ADA requirements throughout District 3, known as State Project No. MP-3000-00(028) / 303158301, in District 3, State of Mississippi.

I (We) agree to complete the entire project within the specified contract time.

***** SPECIAL NOTICE TO BIDDERS *****

**BIDS WILL NOT BE CONSIDERED UNLESS BOTH UNIT PRICES AND ITEM TOTALS ARE ENTERED.
BIDS WILL NOT BE CONSIDERED UNLESS THE BID CERTIFICATION LOCATED AT THE END OF THE BID SHEETS IS SIGNED**

*****BID SCHEDULE*****

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Item Amount	
						Dollar	Ct	Dollar	Ct
Roadway Items									
0010	202-B035		2,221	Square Yard	Removal of Concrete Sidewalk				
0020	202-B094		4,459	Linear Feet	Removal of Curb &/or Curb and Gutter, All Types				
0030	608-A001	(S)	2,221	Square Yard	Concrete Sidewalk, Without Reinforcement				
0040	618-A001		1	Lump Sum	Maintenance of Traffic	XXXXXXXX	XXX		

*** BID CERTIFICATION ***

TOTAL BID.....\$_____

*** DBE/WBE SECTION ***

*** SIGNATURE STATEMENT ***

BIDDER ACKNOWLEDGES THAT HE/SHE HAS CHECKED ALL ITEMS IN THIS PROPOSAL FOR ACCURACY AND CERTIFIED THAT THE FIGURES SHOWN THEREIN CONSTITUTE THEIR OFFICIAL BID.

BIDDER'S SIGNATURE

BIDDER'S COMPANY

BIDDER'S ID NUMBER

CONDITIONS FOR COMBINATION BID

If a bidder elects to submit a combined bid for two or more of the contracts listed for this month's letting, the bidder must complete and execute these sheets of the proposal in each of the individual proposals to constitute a combination bid. In addition to this requirement, each individual contract shall be completed, executed and submitted in the usual specified manner.

Failure to execute this Combination Bid Proposal in each of the contracts combined will be just cause for each proposal to be received and evaluated as a separate bid.

COMBINATION BID PROPOSAL

I. This proposal is tendered as one part of a Combination Bid Proposal utilizing option ____* of Subsection 102.11 on the following contracts:

* Option to be shown as either (a), (b), or (c).

<u>Project No.</u>	<u>County</u>	<u>Project No.</u>	<u>County</u>
1. _____	_____	6. _____	_____
2. _____	_____	7. _____	_____
3. _____	_____	8. _____	_____
4. _____	_____	9. _____	_____
5. _____	_____	10. _____	_____

- A. If option (a) has been selected, then go to II, and sign Combination Bid Proposal.
- B. If option (b) has been selected, then complete the following, go to II, and sign Combination Bid Proposal.

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
1. _____	_____ _____	_____ _____	_____ _____	_____ _____	
2. _____	_____ _____	_____ _____	_____ _____	_____ _____	
3. _____	_____ _____	_____ _____	_____ _____	_____ _____	
4. _____	_____ _____	_____ _____	_____ _____	_____ _____	
5. _____	_____ _____	_____ _____	_____ _____	_____ _____	
6. _____	_____ _____	_____ _____	_____ _____	_____ _____	
7. _____	_____ _____	_____ _____	_____ _____	_____ _____	
8. _____	_____ _____	_____ _____	_____ _____	_____ _____	

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
9. _____	_____ _____	_____ _____	_____ _____	_____ _____	
10. _____	_____ _____	_____ _____	_____ _____	_____ _____	

C. If option (c) has been selected, then initial and complete one of the following, go to II. and sign Combination Bid Proposal.

_____ I (We) desire to be awarded work not to exceed a total monetary value of \$ _____.

_____ I (We) desire to be awarded work not to exceed _____ number of contracts.

II. It is understood that the Mississippi Transportation Commission not only reserves the right to reject any and all proposals, but also the right to award contracts upon the basis of lowest separate bids or combination bids most advantageous to the State.

It is further understood and agreed that the Combination Bid Proposal is for comparison of bids only and that each contract shall operate in every respect as a separate contract in accordance with its proposal and contract documents.

I (We), the undersigned, agree to complete each contract on or before its specified completion date.

SIGNED _____

TO: EXECUTIVE DIRECTOR, MISSISSIPPI DEPARTMENT OF TRANSPORTATION
JACKSON, MISSISSIPPI

CERTIFICATE

If awarded this contract, I (we) contemplate that portions of the contract will be sublet. I (we) certify that those subcontracts which are equal to or in excess of fifty thousand dollars (\$50,000.00) will be in accordance with regulations promulgated and adopted by the Mississippi State Board of Contractors on January 13, 1999.

I (we) agree that this notification of intent DOES NOT constitute APPROVAL of the subcontracts.

NOTE: Insert name and address of subcontractors. (Subcontracts equal to or in excess of fifty thousand dollars (\$50,000.00) ONLY.)

_____ (Individual or Firm)	_____ (Address)
_____ (Individual or Firm)	_____ (Address)
_____ (Individual or Firm)	_____ (Address)
_____ (Individual or Firm)	_____ (Address)

NOTE: Failure to complete the above DOES NOT preclude subsequent subcontracts. Subsequent subcontracts, if any, equal to or in excess of fifty thousand dollars (\$50,000.00) will be in accordance with regulations promulgated and adopted by the Mississippi State Board of Contractors on January 13, 1999.

Contractor _____

By _____

Title _____

CERTIFICATE MUST BE EXECUTED

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CERTIFICATION (Execute in duplicate)

State of Mississippi

County of _____

I, _____,
(Name of person signing certification)

individually, and in my capacity as _____ of
(Title)

_____ do hereby certify under
(Name of Firm, Partnership, or Corporation)

penalty of perjury under the laws of the United States and the State of Mississippi that
_____, Bidder
(Name of Firm, Partnership, or Corporation)

on Project No. **MP-3000-00(028) / 303158301** _____,

in **District 3** _____ County(ies), Mississippi, has not either directly or indirectly entered into any agreement, participated in any collusion; or otherwise taken any action in restraint of free competitive bidding in connection with this contract; nor have any of its corporate officers or principal owners.

Except as noted hereafter, it is further certified that said legal entity and its corporate officers, principal owners, managers, auditors and others in a position of administering federal funds are not currently under suspension, debarment, voluntary exclusion or determination of ineligibility; nor have a debarment pending; nor been suspended, debarred, voluntarily excluded or determined ineligible within the past three years by the Mississippi Transportation Commission, the State of Mississippi, any other State or a federal agency; nor been indicted, convicted or had a civil judgment rendered by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Initial here "_____" if exceptions are attached and made a part thereof. Any exceptions shall address to whom it applies, initiating agency and dates of such action.

Note: Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

All of the foregoing and attachments (when indicated) is true and correct.

Executed on _____
Signature

(11/23/92S)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CERTIFICATION (Execute in duplicate)

State of Mississippi

County of _____

I, _____,
(Name of person signing certification)

individually, and in my capacity as _____ of
(Title)

_____ do hereby certify under
(Name of Firm, Partnership, or Corporation)

penalty of perjury under the laws of the United States and the State of Mississippi that
_____, Bidder
(Name of Firm, Partnership, or Corporation)

on Project No. **MP-3000-00(028) / 303158301** _____,

in **District 3** _____ County(ies), Mississippi, has not either directly or indirectly entered into any agreement, participated in any collusion; or otherwise taken any action in restraint of free competitive bidding in connection with this contract; nor have any of its corporate officers or principal owners.

Except as noted hereafter, it is further certified that said legal entity and its corporate officers, principal owners, managers, auditors and others in a position of administering federal funds are not currently under suspension, debarment, voluntary exclusion or determination of ineligibility; nor have a debarment pending; nor been suspended, debarred, voluntarily excluded or determined ineligible within the past three years by the Mississippi Transportation Commission, the State of Mississippi, any other State or a federal agency; nor been indicted, convicted or had a civil judgment rendered by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Initial here "_____" if exceptions are attached and made a part thereof. Any exceptions shall address to whom it applies, initiating agency and dates of such action.

Note: Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

All of the foregoing and attachments (when indicated) is true and correct.

Executed on _____
Signature

(11/23/92S)

S E C T I O N 9 0 2

CONTRACT FOR MP-3000-00(028) / 303158301

LOCATED IN THE COUNTY(IES) OF District 3

STATE OF MISSISSIPPI,

COUNTY OF HINDS

This contract entered into by and between the Mississippi Transportation Commission on one hand, and the undersigned contractor, on the other witnesseth;

That, in consideration of the payment by the Mississippi Transportation Commission of the prices set out in the proposal hereto attached, to the undersigned contractor, such payment to be made in the manner and at the time of times specified in the specifications and the special provisions, if any, the undersigned contractor hereby agrees to accept the prices stated in the proposal in full compensation for the furnishing of all materials and equipment and the executing of all the work contemplated in this contract.

It is understood and agreed that the advertising according to law, the Advertisement, the instructions to bidders, the proposal for the contract, the specifications, the revisions of the specifications, the special provisions, and also the plans for the work herein contemplated, said plans showing more particularly the details of the work to be done, shall be held to be, and are hereby made a part of this contract by specific reference thereto and with like effect as if each and all of said instruments had been set out fully herein in words and figures.

It is further agreed that for the same consideration the undersigned contractor shall be responsible for all loss or damage arising out of the nature of the work aforesaid; or from the action of the elements and unforeseen obstructions or difficulties which may be encountered in the prosecution of the same and for all risks of every description connected with the work, exceptions being those specifically set out in the contract; and for faithfully completing the whole work in good and workmanlike manner according to the approved Plans, Specifications, Special Provisions, Notice(s) to Bidders and requirements of the Mississippi Department of Transportation.

It is further agreed that the work shall be done under the direct supervision and to the complete satisfaction of the Executive Director of the Mississippi Department of Transportation, or his authorized representatives, and when Federal Funds are involved subject to inspection at all times and approval by the Federal Highway Administration, or its agents as the case may be, or the agents of any other Agency whose funds are involved in accordance with those Acts of the Legislature of the State of Mississippi approved by the Governor and such rules and regulations issued pursuant thereto by the Mississippi Transportation Commission and the authorized Federal Agencies.

The Contractor agrees that all labor as outlined in the Special Provisions may be secured from list furnished by

It is agreed and understood that each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and this contract shall be read and enforced as though it were included herein, and, if through mere mistake or otherwise any such provision is not inserted, then upon the application of either party hereto, the contract shall forthwith be physically amended to make such insertion.

The Contractor agrees that he has read each and every clause of this Contract, and fully understands the meaning of same and that he will comply with all the terms, covenants and agreements therein set forth.

Witness our signatures this the _____ day of _____, _____.

Contractor (s)

By _____

MISSISSIPPI TRANSPORTATION COMMISSION

Title _____

By _____

Signed and sealed in the presence of:
(names and addresses of witnesses)

Executive Director

Secretary to the Commission
Award authorized by the Mississippi Transportation Commission in session on the ____ day of _____, _____, Minute Book No. _____, Page No. _____.

S E C T I O N 9 0 3

CONTRACT BOND FOR: **MP-3000-00(028) / 303158301**

LOCATED IN THE COUNTY(IES) OF: **District 3**

STATE OF MISSISSIPPI,

COUNTY OF HINDS

Know all men by these presents: that we, _____

_____ Principal, a _____

residing at _____ in the State of _____

and _____

residing at _____ in the State of _____,

authorized to do business in the State of Mississippi, under the laws thereof, as surety, are held and firmly bound unto the State of Mississippi in the sum of _____

(\$ _____) Dollars, lawful money of the United States of America, to be paid to it for which payment well and truly to be made, we bind ourselves, our heirs, administrators, successors, or assigns jointly and severally by these presents.

Signed and sealed this the _____ day of _____ A.D. _____.

The conditions of this bond are such, that whereas the said _____

principal, has (have) entered into a contract with the Mississippi Transportation Commission, bearing the date of _____ day of _____ A.D. _____ hereto annexed, for the construction of certain projects(s) in the State of Mississippi as mentioned in said contract in accordance with the Contract Documents therefor, on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

Now therefore, if the above bounden _____

_____ in all things shall stand to and abide by and well and truly observe, do keep and perform all and singular the terms, covenants, conditions, guarantees and agreements in said contract, contained on his (their) part to be observed, done, kept and performed and each of them, at the time and in the manner and form and furnish all of the material and equipment specified in said contract in strict accordance with the terms of said contract which said plans, specifications and special provisions are included in and form a part of said contract and shall maintain the said work contemplated until its final completion and acceptance as specified in Subsection 109.11 of the approved specifications, and save harmless said Mississippi Transportation Commission from any loss or damage arising out of or occasioned by the negligence, wrongful or criminal act, overcharge, fraud, or any other loss or damage whatsoever, on the part of said principal (s), his (their) agents, servants, or employees in the performance of said work or in any manner connected therewith, and shall be liable and responsible in a civil action instituted by the State at the instance of the Mississippi Transportation Commission or any officer of the State authorized in such cases, for double any amount in money or property, the State may lose or be overcharged or otherwise defrauded of, by reason of wrongful or criminal act, if any, of the Contractor(s), his (their) agents or

SECTION 903 - CONTINUED

employees, and shall promptly pay the said agents, servants and employees and all persons furnishing labor, material, equipment or supplies therefor, including premiums incurred, for Surety Bonds, Liability Insurance, and Workmen's Compensation Insurance; with the additional obligation that such Contractor shall promptly make payment of all taxes, licenses, assessments, contributions, damages, any liquidated damages which may arise prior to any termination of said principal's contract, any liquidated damages which may arise after termination of the said principal's contract due to default on the part of said principal, penalties and interest thereon, when and as the same may be due this state, or any county, municipality, board, department, commission or political subdivision: in the course of the performance of said work and in accordance with Sections 31-5-51 et seq. Mississippi Code of 1972, and other State statutes applicable thereto, and shall carry out to the letter and to the satisfaction of the Executive Director of the Mississippi Department of Transportation, all, each and every one of the stipulations, obligations, conditions, covenants and agreements and terms of said contract in accordance with the terms thereof and all of the expense and cost and attorney's fee that may be incurred in the enforcement of the performance of said contract, or in the enforcement of the conditions and obligations of this bond, then this obligation shall be null and void, otherwise to be and remain in full force and virtue.

Witness our signatures and seals this the _____ day of _____ A.D. _____.

_____	_____
(Contractors) Principal	Surety
By _____	By _____
	(Signature) Attorney in Fact

Title _____	_____
(Contractor's Seal)	(Name and Address of Local (Mississippi) Representative) (Surety Seal)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

HAUL PERMIT FOR BRIDGES

WITH

POSTED WEIGHT LIMITS

DATE: _____

PROJECT: MP-3000-00(028) / 303158301

COUNTIES: District 3

LOCATION: Construction necessary to modify existing curb and sidewalk or construct new curb and sidewalk to comply with ADA requirements through District 3, known as State Project No. MP-3000-00(028) / 303158301, in District 3, State of Mississippi.

A permit is issued to _____ for transporting loads exceeding the posted limit for any such bridge located on State designated routes within the project termini provided that such transport vehicles comply with all other governing statutory weight limits.

This permit is valid on all State designated routes from the point of origin to the point of delivery for materials and equipment utilized in construction of said project and also valid for sub-contractors and vendors upon written permission of the Contractor. The permit is non-transferable and no other haul permit for posted bridges will be issued to other individuals, vendors, or companies for construction of this project.

A copy of this signed permit shall be carried in all vehicles operating under the authority of this permit and also a copy of the Contractor's written permission when the vehicle is other than Contractor owned.

In accordance with State law, the above named Contractor will be liable for damages directly attributable to vehicles operating under this permit.

EXECUTIVE DIRECTOR